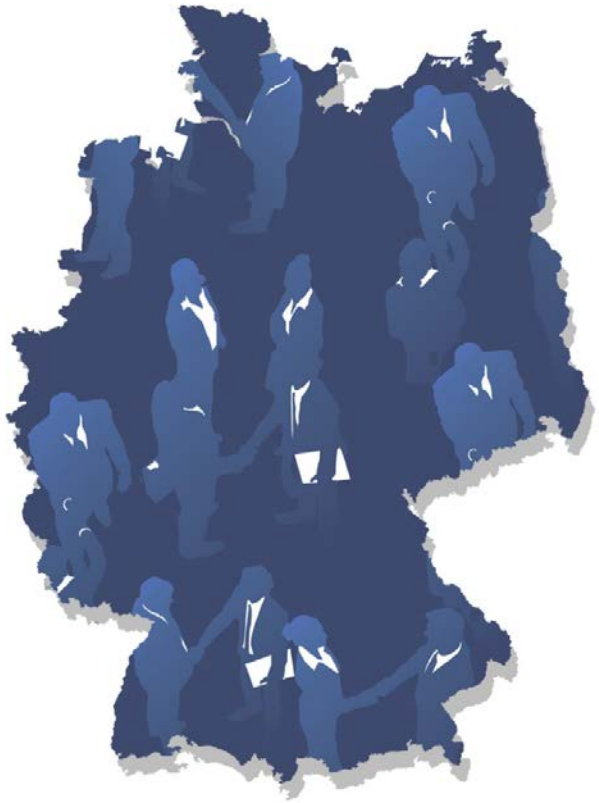
The State of University-Business Cooperation in Germany

Part of the DG Education and Culture Study on the Cooperation Between Higher Education Institutions and Public and Private Organisations in Europe

December 5th, 2013



"Germany are strong performeres in university-business cooperation related to R&D"

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Germany are strong performers in university-business cooperation related to R&D

Potentially reflecting the high respect for research in Germany as well as research and development (R&D), expenditure (2.8% of GDP in 2011 according to the OECD, well above the European average of 1.9%), German universities perceive a high development of collaboration in R&D between universities and business. German HEI managers and academics both recognise lower *barriers* and higher *drivers* for university-business cooperation (UBC) than their European equivalents. However this is not reinforced through the development of *structures and approaches* or the level of *benefits* for academics or HEIs. In other words, Germany HEIs are missing an opportunity to institutionalise UBC and thus this provides some clear areas of improvement for German HEIs.

The State of University-Business Cooperation (UBC) in GERMANY

The UBC ecosystem

1. **Indirect outcome** (society)
2. **Direct outcome** (stakeholder)
3. **University-Business Cooperation (UBC) types**
4. **Influencing factors**
5. **Supporting mechanisms**
6. **Key stakeholders**

The study focus

About the study

The results presented in this report were from a study commissioned by the European Commission (EC). Surveys were sent out to all registered European HEIs in 33 countries in 2011. In total, 6,280 responses were received from European academics and HEI management (HEI managers and HEI professionals working with industry) whilst from Germany, 521 responses from academics (240) and HEI management (281) were received. The study measured the perceptions of these two groups in respect to their own cooperation efforts and those of their HEI respectively.

Methodology

The survey was created during a project completed with the EC in a fifteen and a half month study on the cooperation between HEIs and public and private organisations in Europe. The main components of the project were in-depth qualitative interviews with 10 recognised industry experts as well as a major quantitative survey. The survey was translated into 22 languages and sent to all registered European HEIs (numbering over 3,000) in 33 countries during March 2011. Through this, a final sample population of 6,280 academics and HEI management was achieved making the study the largest study into cooperation between HEIs and business yet completed in Europe.

Objective

The objective of this report is to evaluate the current status of UBC in Spain and benchmark these outcomes against European HEIs. As a result of this analysis, the reader will have a clearer understanding of the extent of cooperation with business. Furthermore, the report aims to highlight the *Barriers* and *Drivers* preventing or motivating cooperation as well as the extent of development of mechanisms supporting UBC, in comparison with the European average.

Questions were posed to two groups within HEIs. These groups were asked about their perception of UBC:

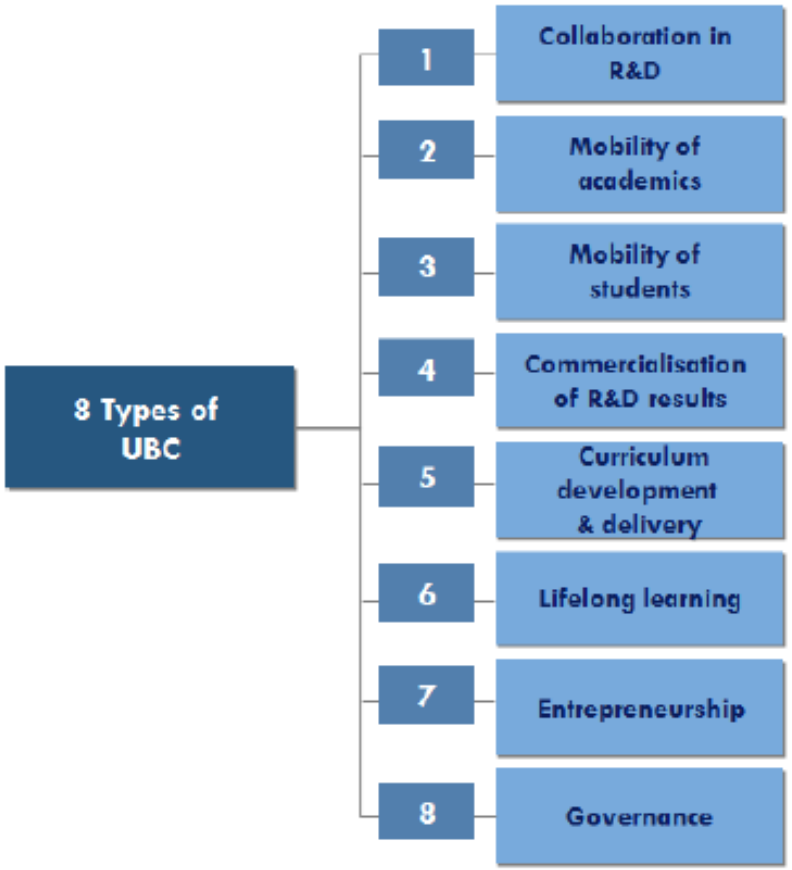
1. Individual academics were asked to respond on behalf of themselves.
2. HEI management (HEI managers and university professionals working with industry) were asked to respond on behalf of their HEI.

	Focus	Responded on behalf of	Colour code for results
1	Academics	Indv. academics	
2	HEIs	HEI management and university professionals working with industry	

Colour codes have been used throughout the report to identify those results received from the academic (green) and those results received from the HEI (orange).

Extent of UBC

Eight types of cooperation between university and business have been recognised in the *State of European UBC Report* with the following descriptions:



Includes joint R&D activities, contract research, R&D consulting, cooperation in innovation, joint publications with firm scientists/researchers, joint supervision of theses Bachelor, Master or PhD) or projects in cooperation with business

Consists of temporary movement of professors, researchers from HEIs to business; and employees, managers and researchers from business to HEIs.

Consists of temporary movement of students from HEIs to business

Includes the commercialisation of scientific R&D results through disclosures of inventions, patenting and licenses.

Consists of the joint development of a programme of courses, modules, majors or minors, planned experiences as well as guest lectures by delegates from external private and public organisations within undergraduate, graduate or PhD programmes

Includes the provision of adult education, permanent education and/or continuing education involving the acquisition of skills, knowledge, attitudes and behaviours by HEIs to people working in external organisations

Consists of actions involving HEIs towards the creation of new ventures or developing entrepreneurial mind-sets in cooperation with business

Includes academics involved in firm decision-making or sitting on the boards of firms and also having business leaders involved in HEI decision-making or sitting on the boards of HEIs or at a faculty management level

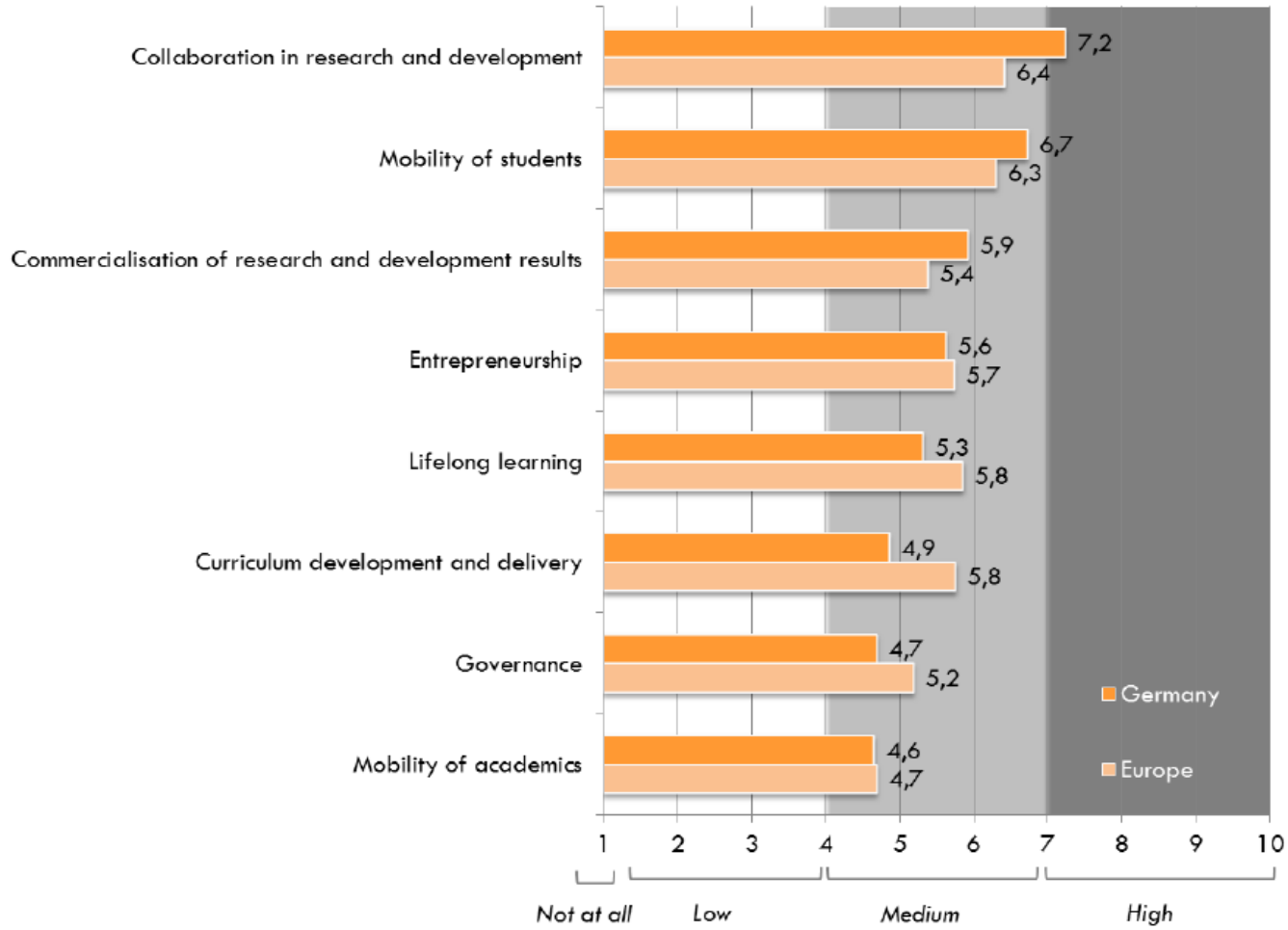
:

Relationship among cooperation types

The study identified that HEIs tend to cooperate at a similar level in all UBC types e.g. if they cooperate to a high extent with business in *Collaboration in R&D*, they cooperated to a similar extent for all the types of UBC.

Extent of UBC

Extent of UBC in Germany
As answered by HEI management

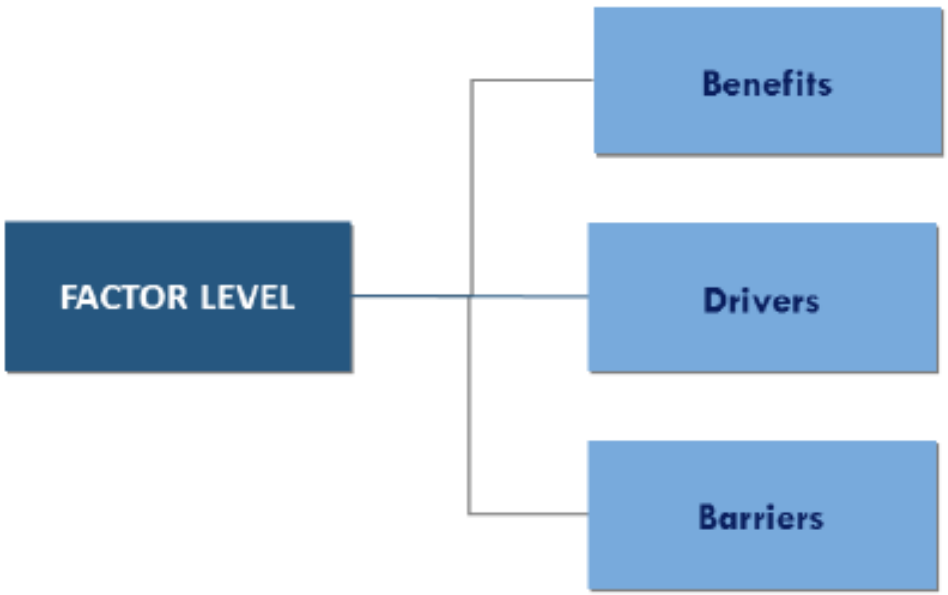


HEIs

ACAD

Factors influencing the extent of UBC

The coming section will outline the extent to which a number of factors affect cooperation within business in Spain. These factors have been found to significantly influence cooperation within the European context.



Benefits for students, the HEI, business, society and academics.

Drivers relating to:
- Commercial, practical and logistical drivers,
- Relationship drivers.

Barriers relating to:
- Usability of results,
- Organisational and relational barriers,
- Funding barriers.

***Barriers* (grouped) to cooperation – Germany v Europe**

As answered by academics and HEI management

Usability of results	Extent of relevance (1-10)		Extent of relevance (1-10)	
• The focus on producing practical results by business, • The need for business to have confidentiality of research results, • Business fear that their knowledge will be disclosed.	Germany		Europe	
	ACAD	5.8	ACAD	6.1
	HEI	5.8	HEI	6.0

Funding barriers	Extent of relevance (1-10)		Extent of relevance (1-10)	
• Lack of external funding for University-Business cooperation, • Lack of financial resources of the business, • Lack of HEI funding for UBC, • The current financial crises.	Germany		Europe	
	ACAD	5.5	ACAD	6.5
	HEI	5.4	HEI	6.8

Relational barriers	Extent of relevance (1-10)		Extent of relevance (1-10)	
• Business lack awareness of HEI research activities / offerings, • The limited absorption capacity of SMEs to take on internships or projects, • Differing time horizons between HEI and business, • Differing motivation / values between HEI and business, • Universities lack awareness of opportunities arising from UB-cooperation, • Bureaucracy within or external to the HEI , • Limited ability of business to absorb research findings, • Differing mode of communication and language between HEI and business, • A lack of contact people with scientific knowledge within business, • Difficulty in finding the appropriate collaboration partner, • No appropriate initial contact person within either the HEI or business.	Germany		Europe	
	ACAD	5.8	ACAD	6.4
	HEI	5.7	HEI	6.2

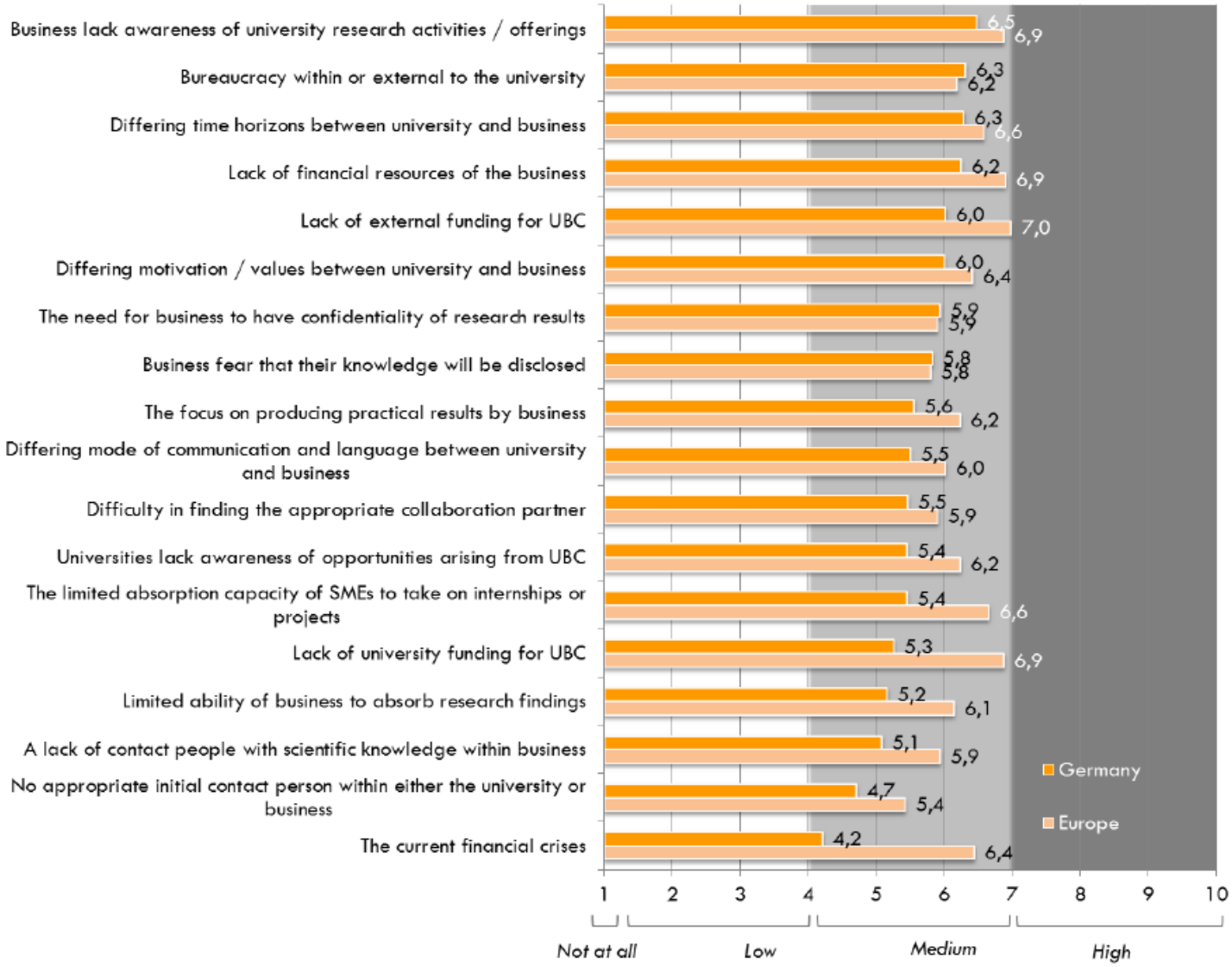
HEIs

ACAD

For further information, go to www.ub-cooperation.eu/index/germany

Main *barriers* to cooperation – Germany v Europe

As answered by HEI management



HEIs

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Drivers (grouped) of cooperation – Germany v Europe

As answered by academics and HEI management

Relationship drivers	Extent of facilitation (1-10)		Extent of facilitation (1-10)	
• Existence of mutual trust, • Existence of mutual commitment, • Having a shared goal, • Understanding of common interest by different stakeholders (e.g. universities; business; individuals; students), • Prior relation with the business partner, • Cooperation as effective means to address societal challenges and issues.	Germany		Europe	
	ACAD	7.2	ACAD	6.7
	HEI	7.3	HEI	7.0

Business drivers	Extent of facilitation (1-10)		Extent of facilitation (1-10)	
• Employment by business of HEI staff and students, • Interest of business in accessing scientific knowledge, • Possibility to access funding / financial resources for working with business, • Short geographical distance of the HEI from the business partner • Flexibility of business partner, • Access to business-sector research and development facilities • Commercial orientation of the HEI.	Germany		Europe	
	ACAD	6.0	ACAD	5.6
	HEI	6.3	HEI	6.7

HEIs

ACAD

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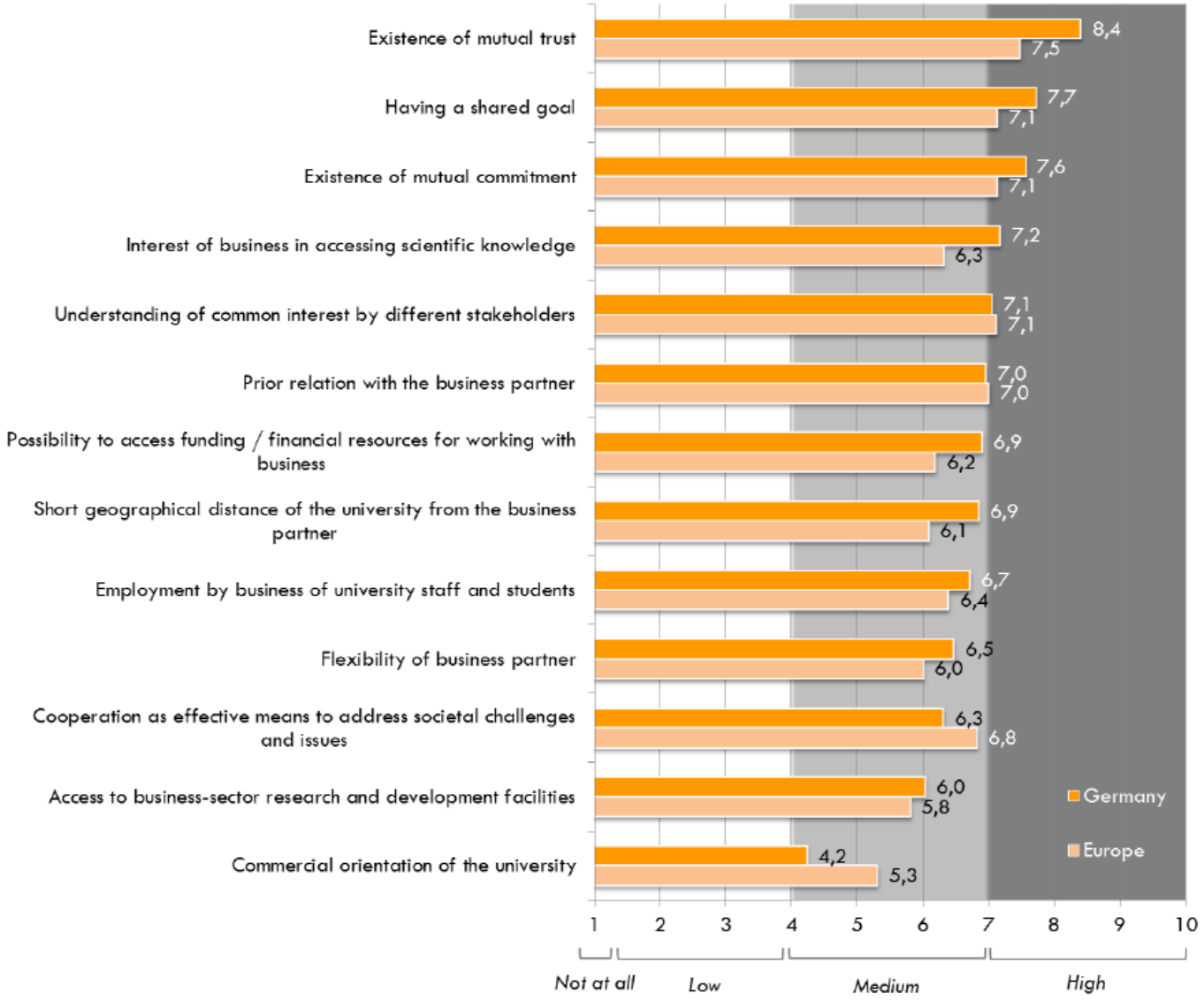
Main *drivers* of cooperation – Germany v Europe

As answered by HEI management



For further information, go to www.ub-cooperation.eu/index/germany

Benefits (grouped) from cooperation – Germany v Europe

As answered by academics

Benefits for students	Extent of importance (1-10)		Extent of importance (1-10)	
• UB activities improve employability of future graduates • UB activities improve the learning experience of students	Germany		Europe	
	ACAD	7.9	ACAD	7.9

Benefits for business	Extent of importance (1-10)		Extent of importance (1-10)	
• UB activities improve the performance of business	Germany		Europe	
	ACAD	7.4	ACAD	7.6

Benefits for HEIs	Extent of importance (1-10)		Extent of importance (1-10)	
• Successful UBC is vital to achieving the mission of the HEI	Germany		Europe	
	ACAD	5.9	ACAD	6.6

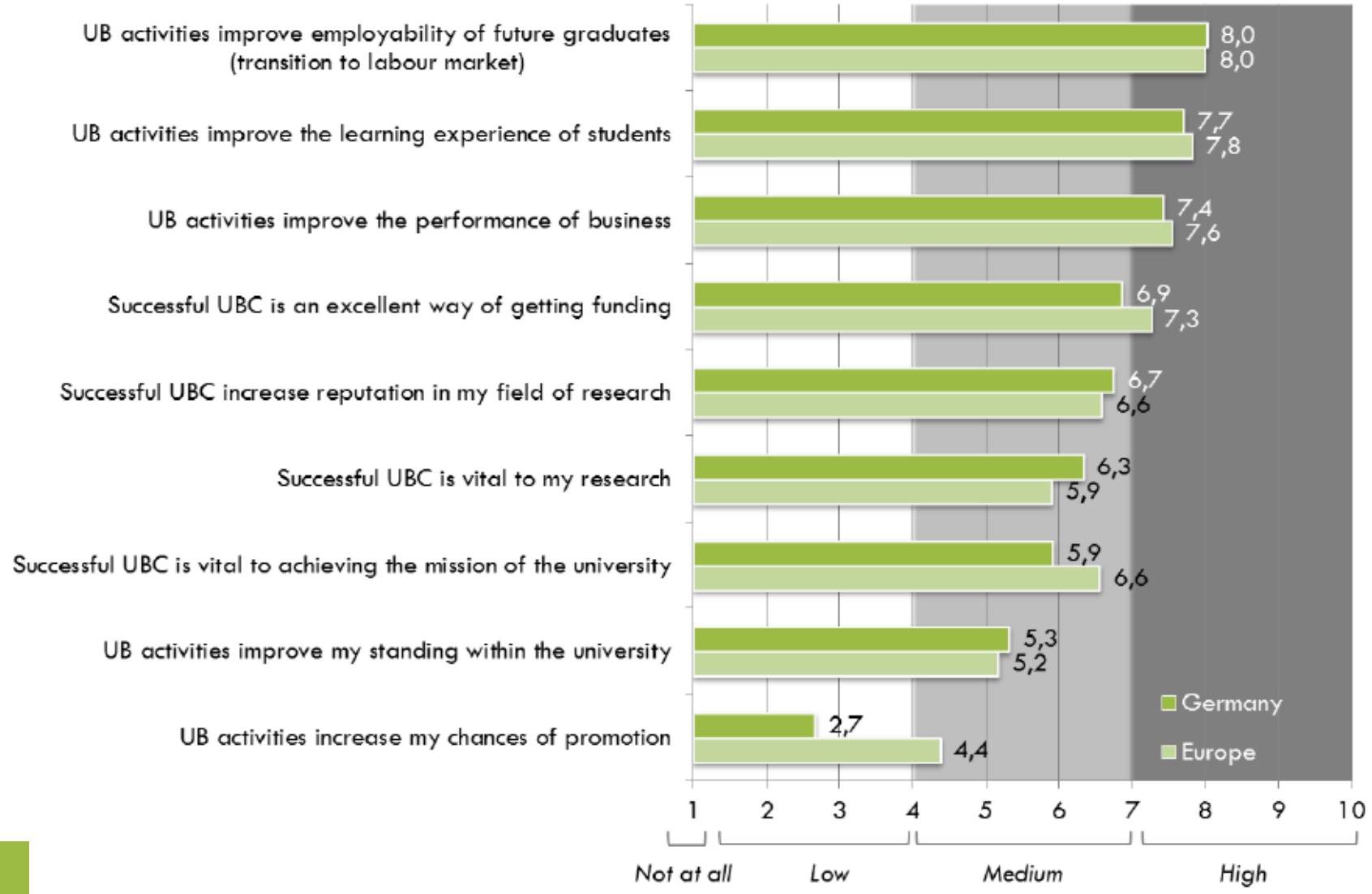
Benefits for academics	Extent of importance (1-10)		Extent of importance (1-10)	
• Successful UBC is an excellent way of getting funding • Successful UBC increases my reputation in my field of research • Successful UBC is vital to my research • UB activities improve my standing within the university • UBC activities increase my chances of promotion	Germany		Europe	
	ACAD	5.7	ACAD	5.9

ACAD

For further information, go to www.ub-cooperation.eu/index/germany

Benefits from cooperation – Germany v Europe

As answered by academics



ACAD

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Benefits (grouped) from cooperation – Germany v Europe

As answered by HEI management

Benefits for the HEI	Extent of importance (1-10)		Extent of importance (1-10)	
• UBC is vital to achieving the mission of the HEI.	Germany		Europe	
	HEI	6.8	HEI	7.7

Benefits for students	Extent of importance (1-10)		Extent of importance (1-10)	
• UBC increases skills and graduate development	Germany		Europe	
	HEI	8.4	HEI	8.5

Benefits for business and society	Extent of importance (1-10)		Extent of importance (1-10)	
• UBC has beneficial effects on the local industry • UBC improves regional productivity • UBC creates local employment • UBC increases local GDP and disposable income • UBC creates a range of beneficial social and recreational benefits	Germany		Europe	
	HEI	6.9	HEI	7.3

HEIs

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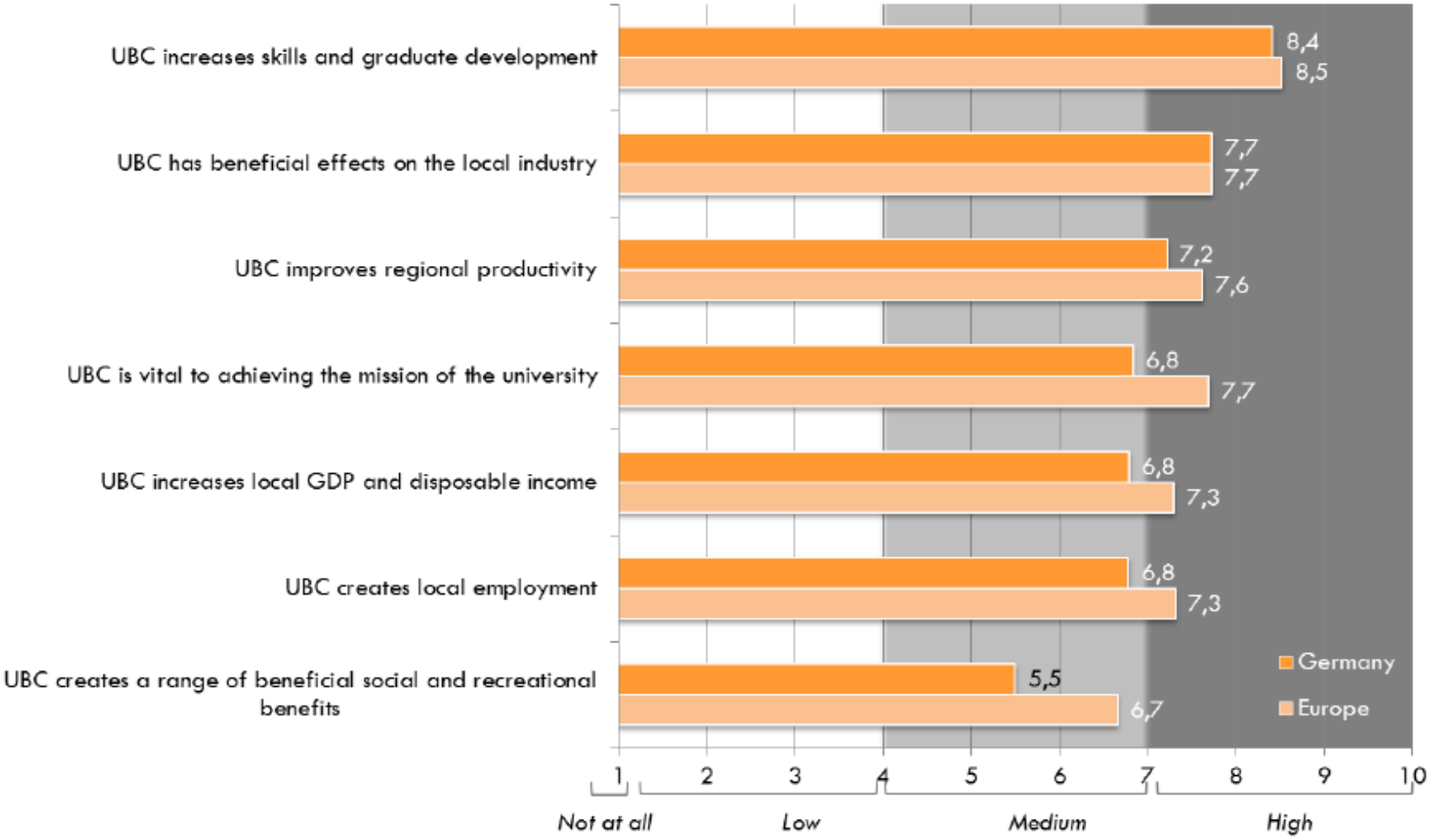
Benefits from cooperation – Germany v Europe

As answered by HEI management



HEIs

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BENCHMARK

…universities in your region
…your university!

Using the State of European University-Business Cooperation (HIPPO) study results, decision makers, managers and practitioners involved in UBC can benefit from receiving:

1. a benchmark in terms of UBC of your organisation, institution, sector, region or country against others.
2. a clear picture of progress in efforts to increase UBC,
3. proactive areas of focus for increasing UBC,
4. the required information to advance UBC within their region or institution

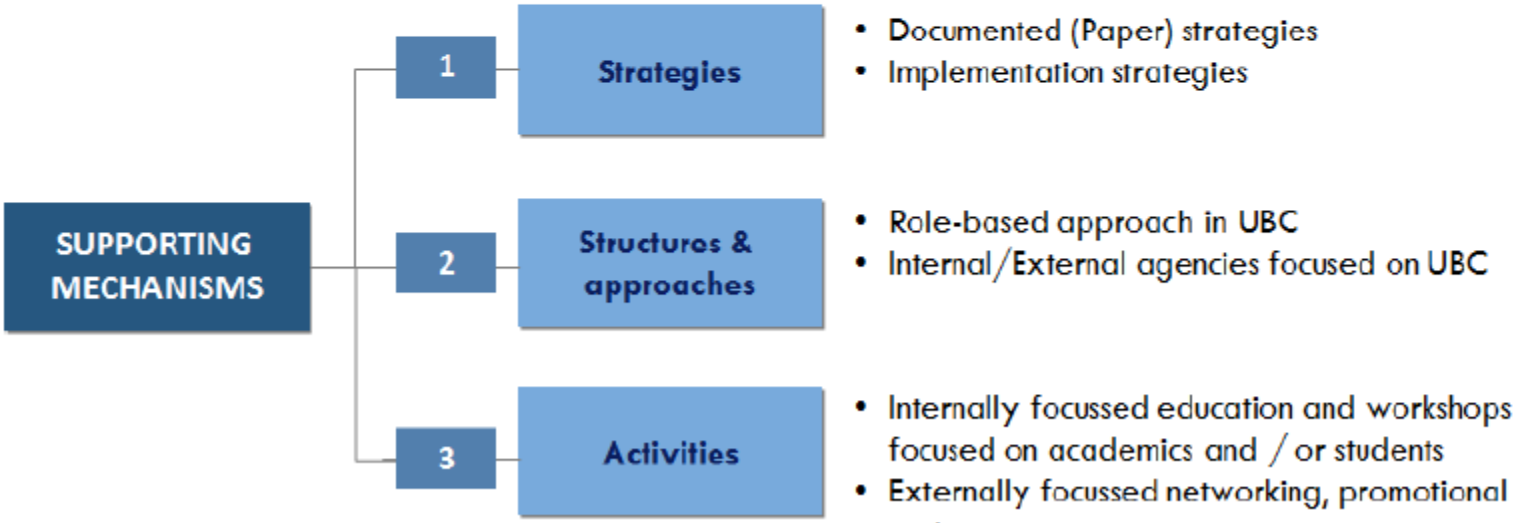
A state of the UBC report dedicated to your organisation can assist with developing greater financial and non financial benefits from UBC.. It will be provided to your organisation in the form of a report and/or presentation.

Please contact davey@apprimo.com for more information.

Supporting mechanisms for UBC

Supporting mechanisms are interventions designed to support the development of cooperation between HEIs and business.

The coming section will outline the extent to which UBC *Supporting mechanisms* are developed in Spain. The development of these mechanisms has been found to significantly influence cooperation within the European context.



For further information, go to www.ub-cooperation.eu/index/germany

Supporting mechanisms explained

The UBC *Supporting mechanisms* constitute the 'action-level', where all stakeholders need to focus their efforts when they want to influence the extent of UBC.

The specific role and importance of *Supporting mechanisms* at HEIs has long been recognised in both practice and literature. They are often recognised in multiple ways including (i) in a variety of different names (e.g. interventions, enablers), (ii) captured in a model (e.g. ecosystem, regional innovation system) or (iii) known as individual elements (e.g. activities, infrastructure).

A key finding of the *State of European UBC Report* was that the extent of development of the *Supporting mechanisms* was found to significantly affect the extent of general activity between HEIs and business. The nature of the *Supporting mechanisms* in terms of (i) responsibility, (ii) expense and (iii) time to impact are summarised in the table below.

	Primary responsibility for the mechanism	Secondary responsibility	Expense	Time to impact
Strategies	HEI management	All UBC stakeholders	Low	Long term
Structures and approaches	HEI / regional Govt. and agencies	Regional UBC stakeholders	Agencies: High Personnel: Med-high	Agencies: Long Personnel: Medium
Operational activities	Knowledge transfer Professionals	Regional UBC stakeholders	Medium	Short-medium term

Development of UBC *strategies* (grouped) – Germany v Europe

As answered by HEI management

Documented (Paper) strategies	Extent of development (1-10)		Extent of development (1-10)	
• A top-level management committed to University-Business cooperation, • A documented mission / vision embracing University-Business cooperation, • A strategy for University-Business cooperation, • The internal promotion of University-Business cooperation., • The external promotion of University-Business cooperation.	Germany		Europe	
	HEI	7.2	HEI	6.8

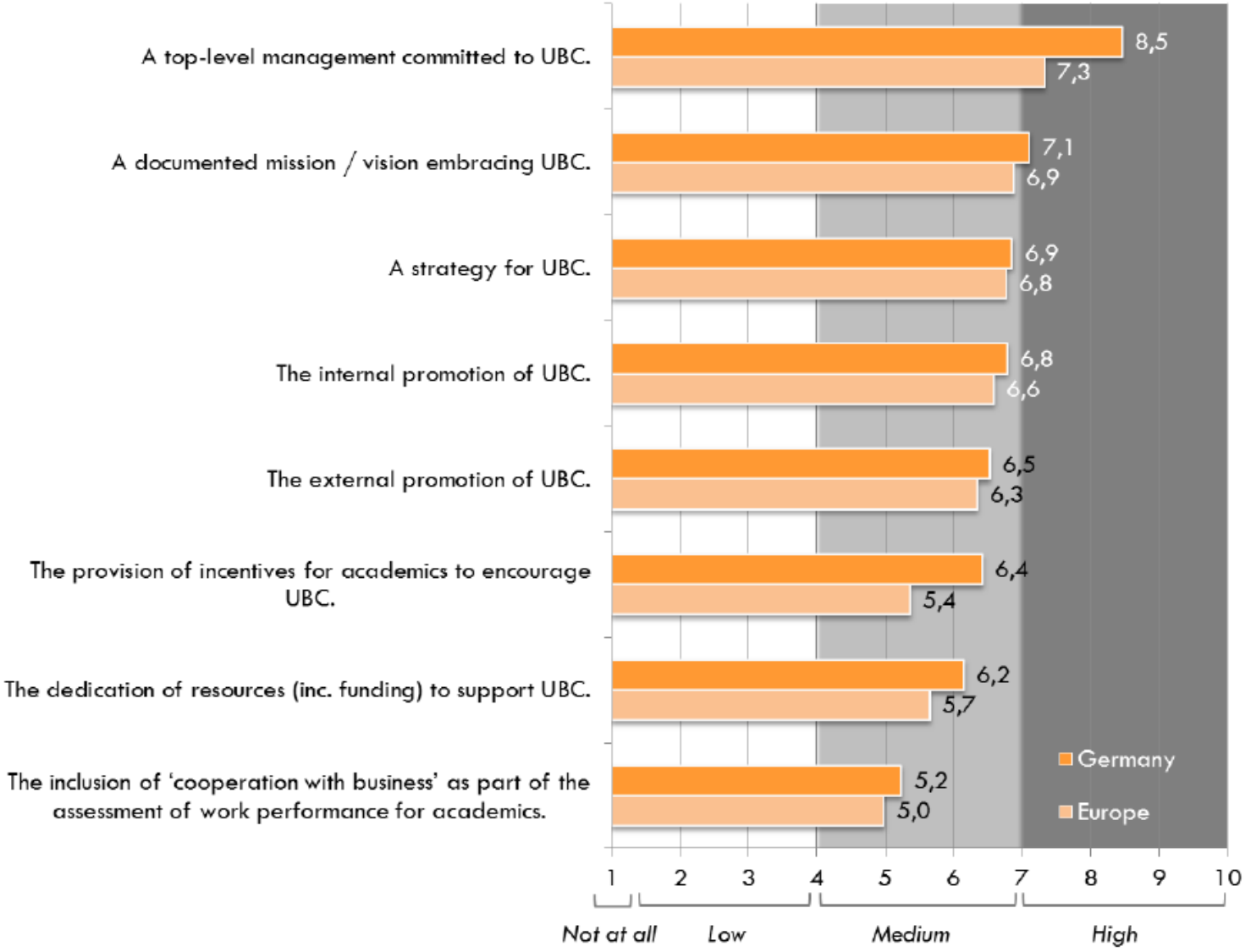
Implementation and motivation strategies	Extent of development (1-10)		Extent of development (1-10)	
• The dedication of resources (inc. funding) to support University-Business cooperation, • The provision of incentives for academics to encourage University-Business cooperation, • The inclusion of 'cooperation with business' as part of the assessment of work performance for academics.	Germany		Europe	
	HEI	5.9	HEI	5.4

HEIs

For further information, go to www.ub-cooperation.eu/index/germany

Development of UBC *strategies* – Germany v Europe

As answered by HEI management



HEIs

For further information, go to www.ub-cooperation.eu/index/germany

Development of UBC *structures and approaches* (grouped) – Germany vs Europe

As answered by HEI management

Roles-based approaches in UBC	Extent of development (1-10)		Extent of development (1-10)	
• The presence of academics on company boards, • The presence of business people on the HEI board, • Board member or vice rector positions for UBC. • The practise of recruiting industry professionals into the knowledge transfer area., • An alumni network.	Germany		Europe	
	HEI	5.3	HEI	5.4

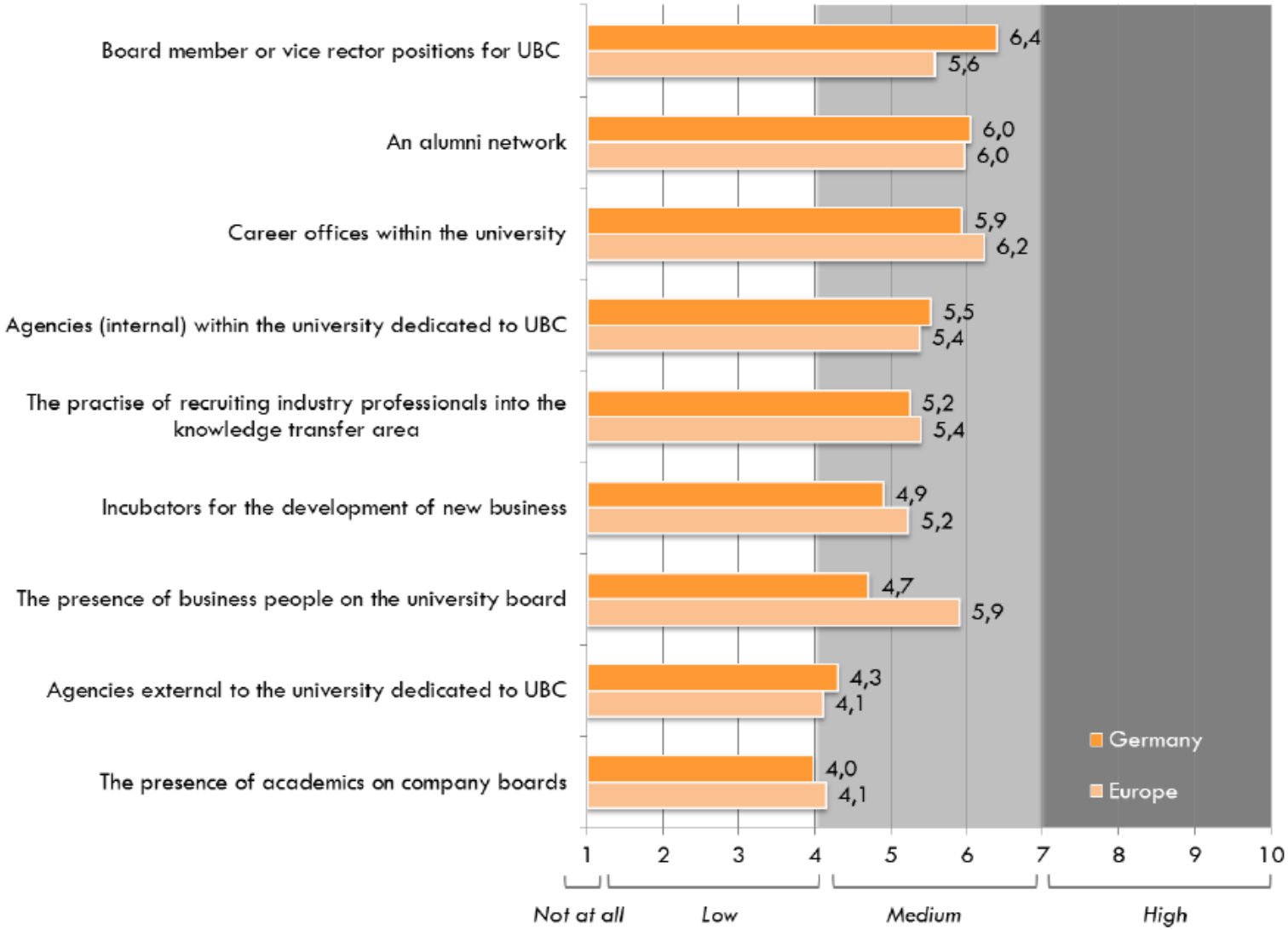
Internal/External agencies focused on UBC	Extent of development (1-10)		Extent of development (1-10)	
• Career offices within the HEI, • Agencies external to the HEI dedicated to UBC • Agencies (internal) within the HEI dedicated to UBC, • Incubators for the development of new business.	Germany		Europe	
	HEI	5.2	HEI	5.3

HEIs

For further information, go to www.ub-cooperation.eu/index/germany

Development of UBC *structures and approaches* – Germany v Europe

As answered by HEI management



HEIs

For further information, go to www.ub-cooperation.eu/index/germany

Development of UBC operational *activities* (grouped) – Germany v Europe

As answered by HEI management

Internally focused education and workshops focused on academics	Extent of development (1-10)		Extent of development (1-10)	
• Workshops, information sessions and forums for University-Business collaboration targeting academics, • Entrepreneurship education offered to academics.	Germany		Europe	
	HEI	5.7	HEI	5.3

Internally focused education and workshops focused on students	Extent of development (1-10)		Extent of development (1-10)	
• Entrepreneurship education offered to students.	Germany		Europe	
	HEI	6.8	HEI	6.3

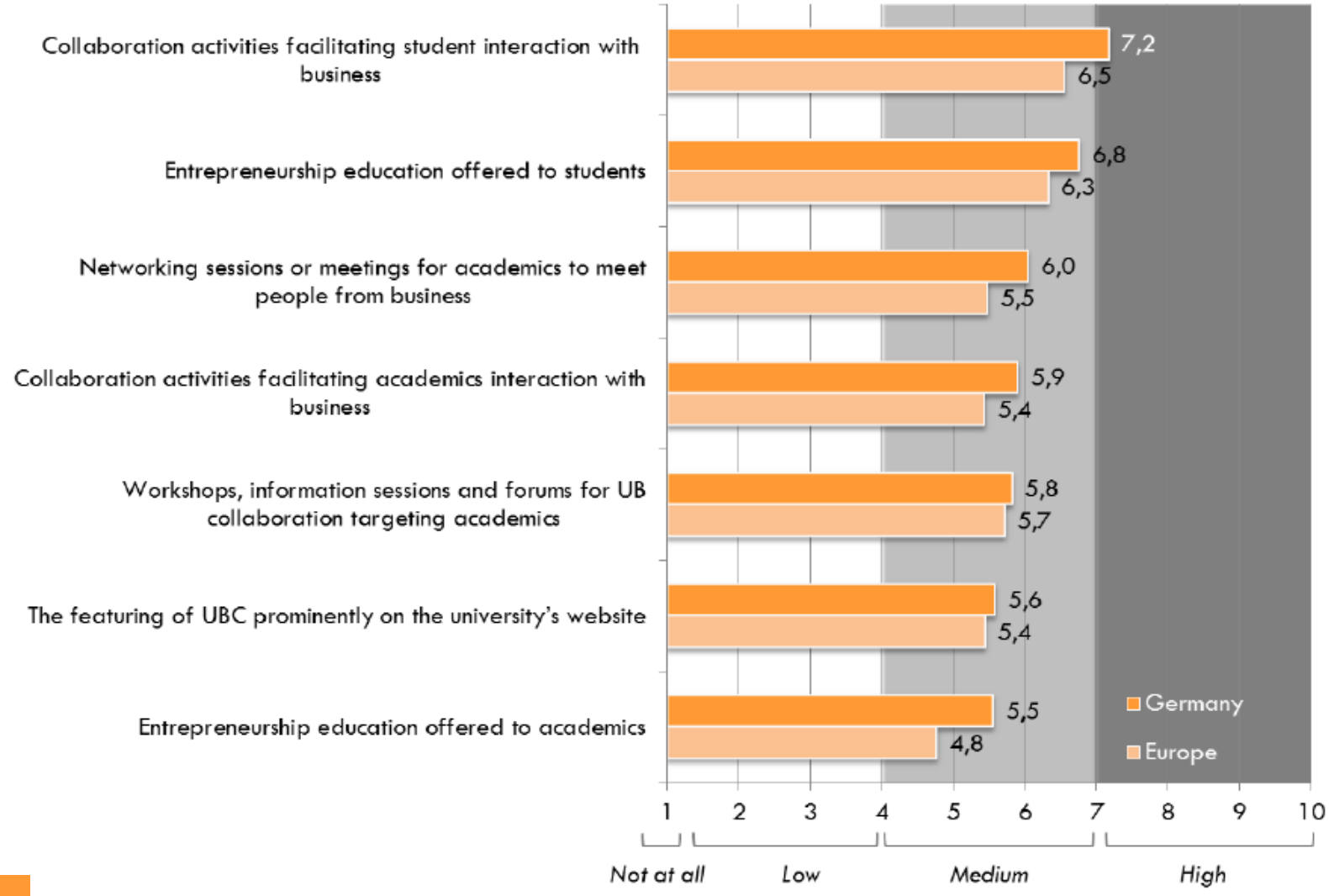
Externally focused networking, promotional and project activities	Extent of development (1-10)		Extent of development (1-10)	
• Networking sessions or meetings for academics to meet people from business, • The featuring of University-Business cooperation prominently on the HEI's website, • Collaboration activities facilitating student interaction with business, • Collaboration activities facilitating academics interaction with business.	Germany		Europe	
	HEI	6.2	HEI	5.7

HEIs

For further information, go to www.ub-cooperation.eu/index/germany

Development of UBC operational *activities* in Germany

As answered by HEI management

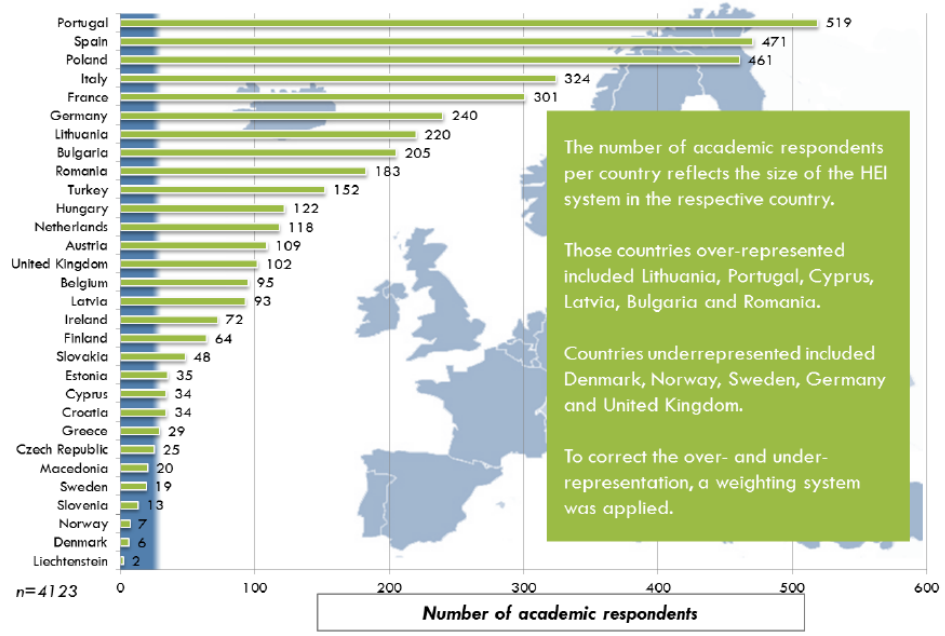


HEIs

For further information, go to www.ub-cooperation.eu/index/germany

Respondents (academic)

Country



The number of academic respondents per country reflects the size of the HEI system in the respective country.

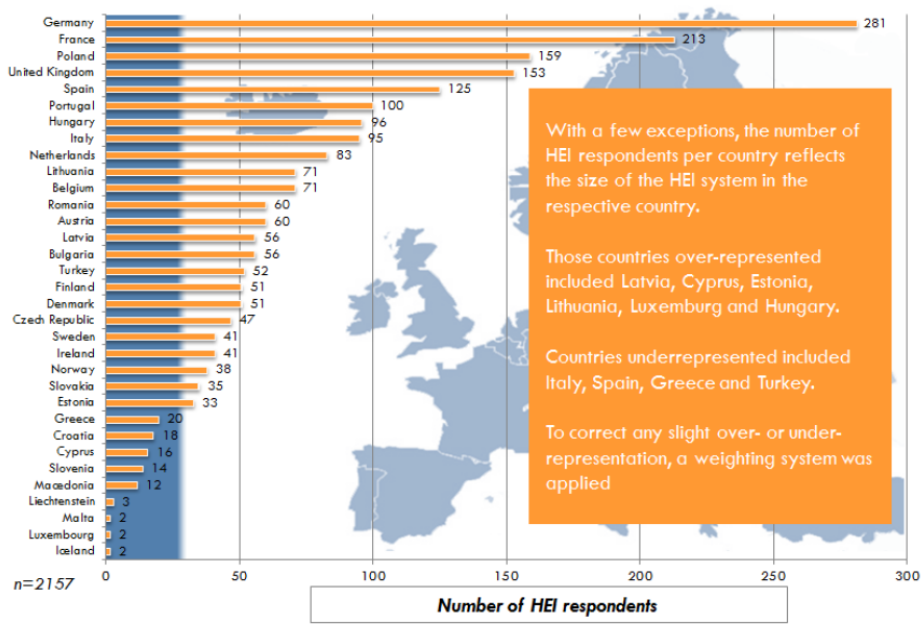
Those countries over-represented included Lithuania, Portugal, Cyprus, Latvia, Bulgaria and Romania.

Countries underrepresented included Denmark, Norway, Sweden, Germany and United Kingdom.

To correct the over- and under-representation, a weighting system was applied.

Respondents (HEIs)

Country



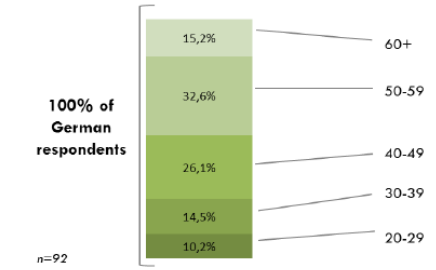
With a few exceptions, the number of HEI respondents per country reflects the size of the HEI system in the respective country.

Those countries over-represented included Latvia, Cyprus, Estonia, Lithuania, Luxemburg and Hungary.

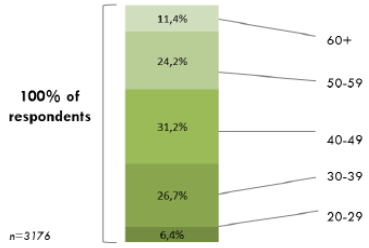
Countries underrepresented included Italy, Spain, Greece and Turkey.

To correct any slight over- or under-representation, a weighting system was applied

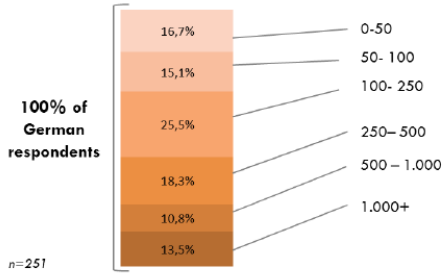
Age of respondents in Germany



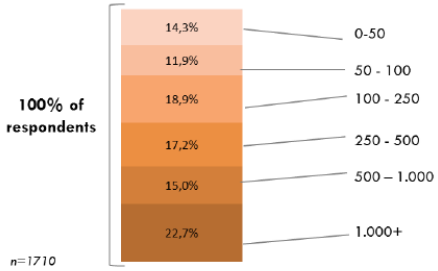
Age of respondents in Europe



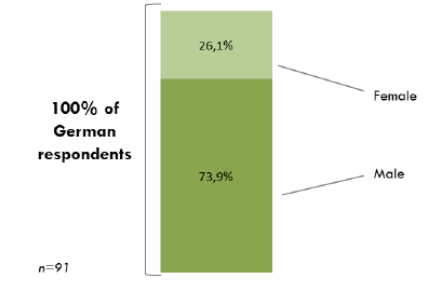
Size of HEI (no. of academics) in Germany



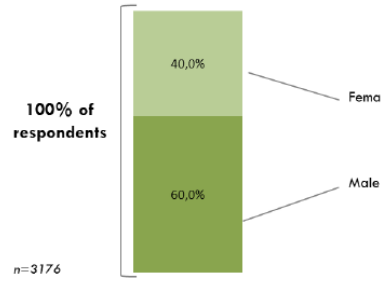
Size of HEI (no. of academics) in Europe



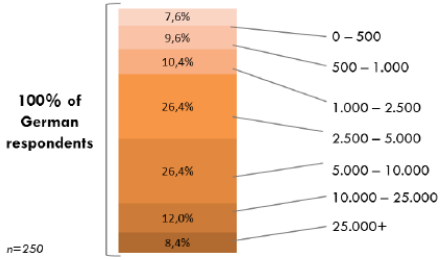
Gender of respondents in Germany



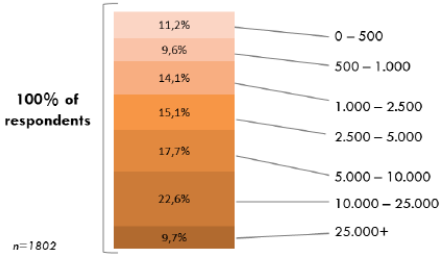
Gender of respondents in Europe



Size of HEI (no. of students) in Germany



Size of HEI (no. of students) in Europe



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For more information about the University-Business Cooperation reports please contact Todd Davey (davey@apprimo.com)

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This document has been prepared by the authors using data that had been collected in the framework of a study prepared for the European Commission. It reflects the views only of the authors, and the Commission cannot be held responsible for any use that may be made of the information contained therein.

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27

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If you are involved

in any form of

university-business collaboration (UBC)

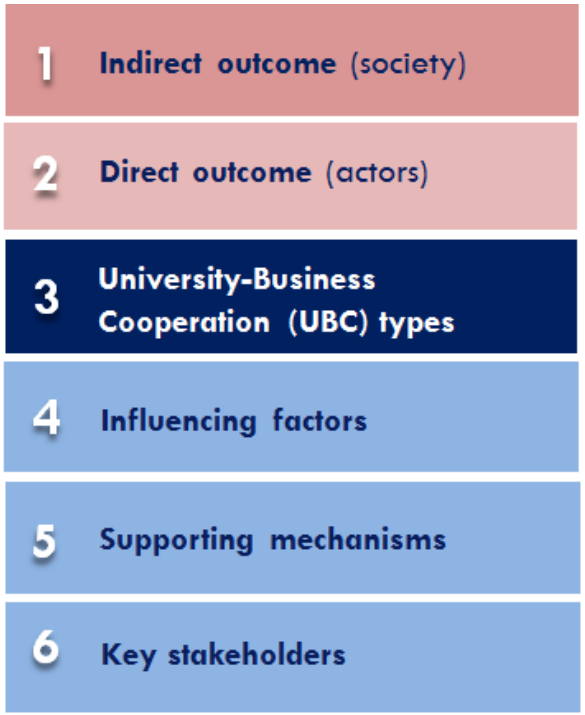
you need to understand the

‘big picture’

Describing University-Business Cooperation (UBC)

The UBC Ecosystem

A model for understanding the important elements affecting University-Business Cooperation (UBC)



Model created by
Todd Davey, Victoria Galan Muros, Arno Meerman

Model validation partners
Science-to-Business Marketing Research Centre, UIIN, apprimo UG

Co-created by
105 practitioners validating the model in their work.

The model relationships have been scientifically validated by the Science-to-Business Marketing Research Centre

apprimo innovation and market cultivation

Science Marketing_ Science-to-Business Research Centre Germany

UIIN University Industry Innovation Network

ARE YOU…

- attempting to develop UBC within your organisation?
- repetitively thinking about the factors affecting cooperation between university and business as well as their how they relate to each other?
- trying to foster open innovation involving universities?
- continually confronted with the challenge of creating better relationships between HEIs and business?
- a revolutionary trying to match researchers with business partners?

… if you answered 'yes' to any of these questions, you are not alone: this model was developed by people like you for these reasons

UBC ECOSYSTEM > Layers explained

All aspects are measurable (benchmarking)

1	Indirect Impact	Impact level	How it impacts society
2	Direct outcomes	Outcome level	How it affects stakeholders
3	University-Business Cooperation types	Result level	What occurs
4	Influencing factors	Factor level	What you have to consider
5	Supporting mechanisms	Action level	What you can do
6	Key stakeholders	Stakeholder level	Who is involved

1. INDIRECT OUTCOMES

DEF Refers to the indirect outcomes experienced by society generally from UBC

The indirect social contribution of UBC includes:

- creates jobs and stimulates economic growth,
- increases living standards, productivity and social cohesion.

UBC is vital in building the knowledge society

As societies develop from farming, industrial to knowledge societies, governments are embracing the need to create a more connected relationship between government, business and HEIs with focus on UBC. A knowledge society consists of: (i) innovation, (ii) education, (iii) ICT and (iv) science & technology, to which UBC is vital.

Validation: Literature, expert interviews and 30 case studies show that UBC is crucial for creating a knowledge society

ACTION: Promote ways of measuring and recognising this contribution

UBC is an engine for the development of a knowledge society

> Farming (land)

> Industrial age (labour)

> Knowledge society

Consisting of:

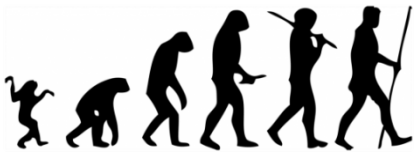
(1) Innovation

(2) Education,

(3) ICT

(4) Science & Technology

} UBC



The indirect social contribution of UBC includes:

- creates jobs and stimulates economic growth,
- increases living standards, productivity and social cohesion.

GP FOR GOVERNMENTS/HEIs

- Elevate UBC onto an equal footing as teaching and research
- Manage the process of turning UBC activity and outcomes into impact
- Evaluate impact for each stakeholder group involved

GP FOR BUSINESS

Recognise that business are also part of the process of delivering benefit to society

UBC reports direct positive outcomes for each of the stakeholders groups involved

Direct benefits (most highly recognised)

GP for HEIs / TTOs

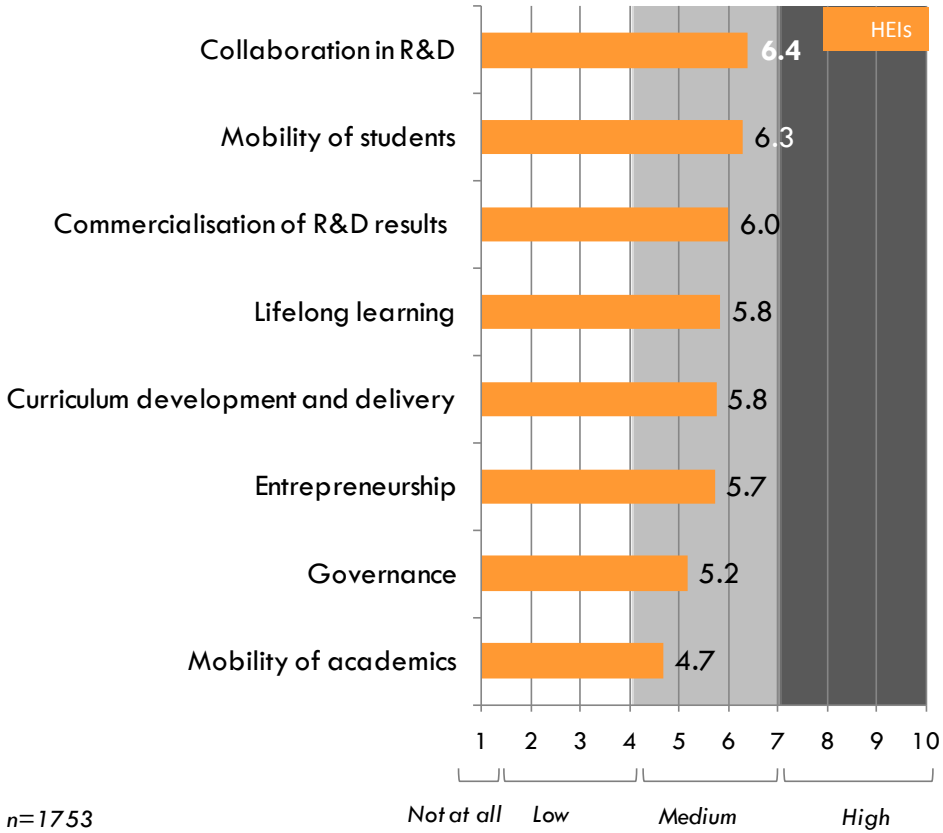
- Strategise win-win situations prior to UBC commencement
- Promote potential benefits to get people involved and committed
- Manage the process to ensure that positive outcomes are delivered for all UBC stakeholders

GP for business

- Be clear of your desired outcomes
- Identify the most-important outcomes for your collaboration partners

HEIs	Academics	Business
Improving/increasing • future job prospects of students, • the relevance of research conducted within the HEI, • transfer of knowledge and technology to society • increasing third-party money	• Funding • Informing their teaching • Increasing scientific productivity measured in quality and quantity of articles • Accessing equipment and resources	• Accessing new discoveries and accessing problem-solving capabilities • Provision of future income through product and service development • Reducing R&D risk and expense

There are eight different types of UBC but are all interrelated



GP for governments HEIs & TTOs

- Recognise this broader form of UBC
- Have a general strategy for UBC combined with more specific strategies for each of the types
- Find ways to make all UBC types more direct, measurable and promotable

GP for academics

- To explore the different types of cooperation with your partners

GP for business

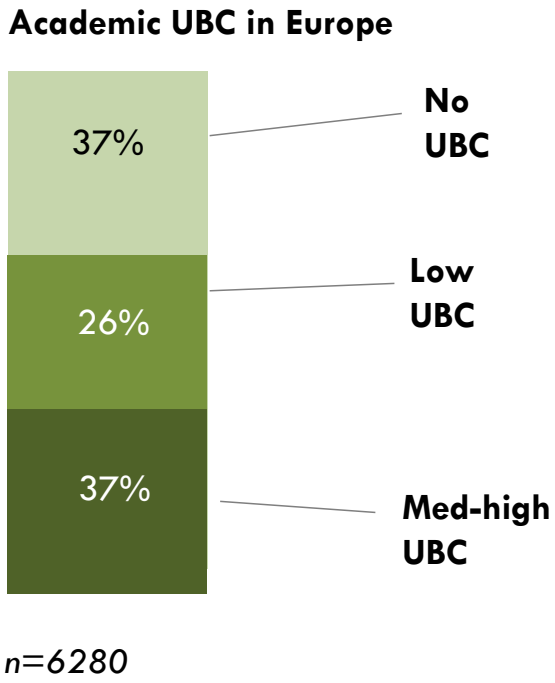
- Approach collaboration with HEIs more holistically (instead of in a 'siloed' manner)

1 IMPACT
2 OUTCOME
3 UBC TYPE
4 INFL FACTOR
5 SUPP MECH
6 KEY STKHLDER

Finding: Those types of UBC offering: (1) more direct, (2) measurable, and (3) promotable benefits are the most developed ones.

3. UBC TYPES

Approximately <u>2 of every 5 academics</u> are responsible for most of the UBC activity



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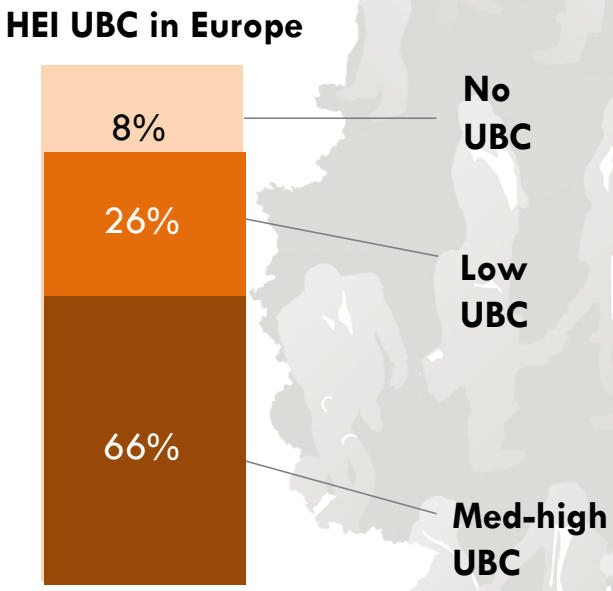
<u>1 of every 3 HEIs</u> undertake no or a low amount of UBC activity



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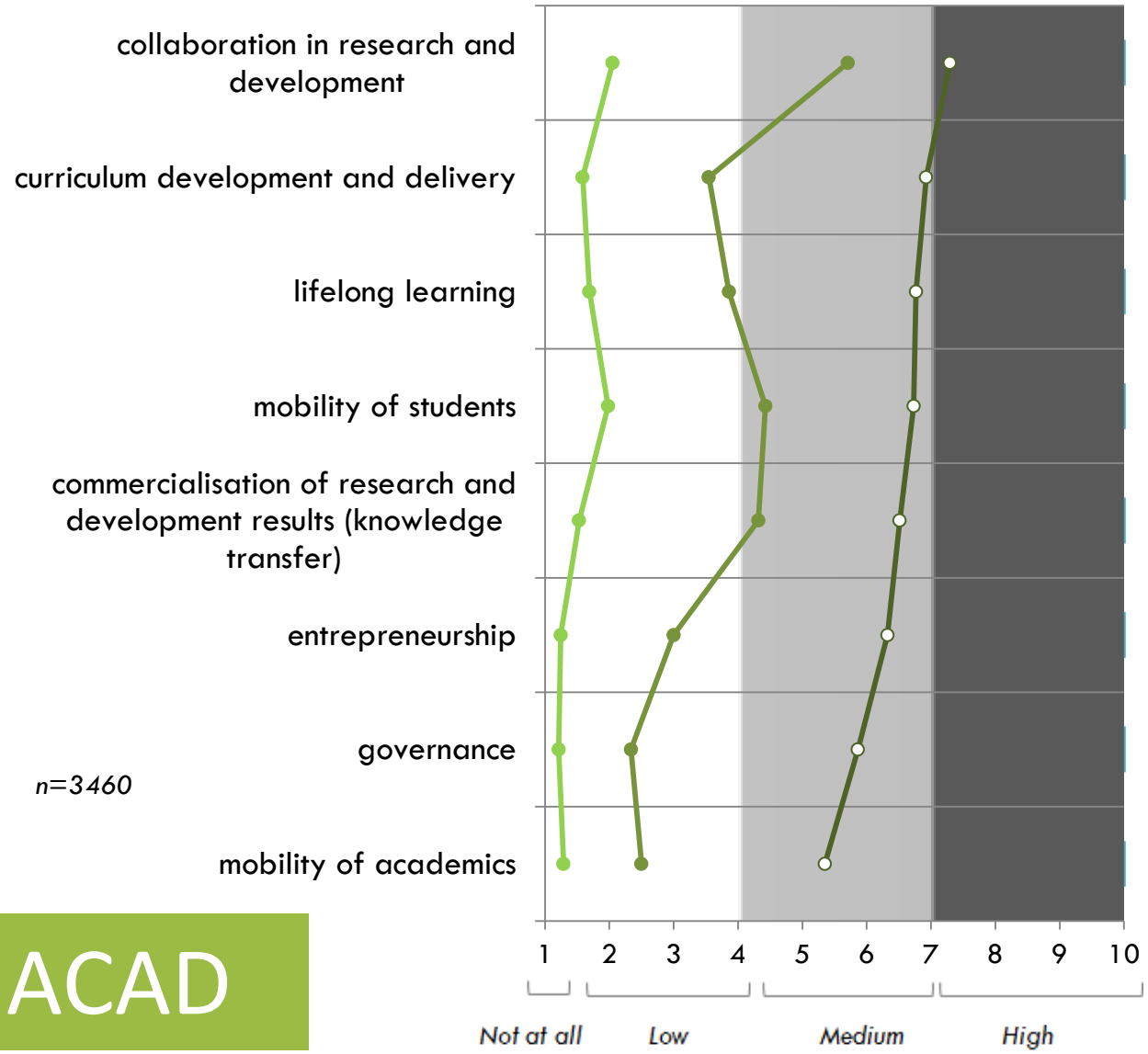
ACAD

HEIs

3. UBC TYPES > Interrelation



A 2-step cluster analysis shows that '*trailblazers*' academics (high UBC) are likely to cooperate with business in all the 8 Types to a similar extent, which range from medium to high. This finding is reflected through all 3 clusters which allows us to conclude the following:

The eight types of UBC are all interrelated (they do not work in isolation)

High UBC

Medium UBC

Low UBC

ACAD

4. INFLUENCING FACTORS

Influencing factors explain the aspects that effect the extent of UBC for academics and HEIs.

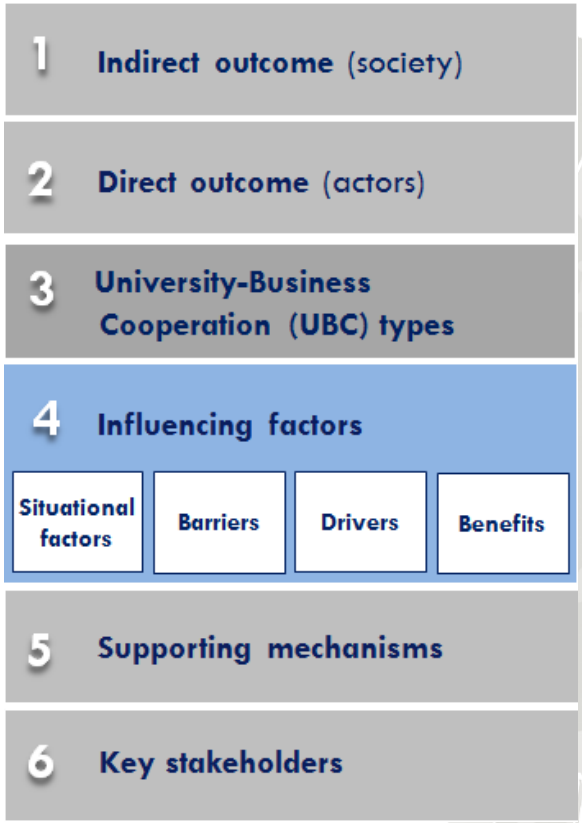
Influencing factors are:

a) Situational factors
(e.g. age, faculty, years in business, etc.)

b) Barriers

c) Drivers

d) Perceived benefits



Validation: Literature, expert interviews, 30 case studies, a survey pre-test and then quantitative analysis of the major study provided the validation of the importance of each of the influencing factors. Furthermore Kruskal-Wallis tests confirmed their significant influence on the extent of UBC.

ACTION: Consider the four different factors and their effects on UBC

All situational factors help to explain UBC

...but only a few of them have practical implications
For example:

Scale: 1 = none,
>1 - 4 = low;
>4 - 7 = medium;
>7 - 10 = high

Years in business	Extent of UBC
None	3.4
> 0 - 2	3.9
> 2 – 5	4.2
> 5 – 9	4.4
> 9 - 19	**4.5**
> 19 years	**4.5**

ACAD

Finding: The extent of UBC is significantly higher with those academics with some experience in business

GP for HEIs:

- Consider all the situational factors in decision making processes
- Prepare strategies / structures or activities that address the most important situational factors affecting UBC
- Employ academics with business experience or provide opportunities for academic mobility

GP for academics

- Seek business experience prior to or concurrently with your academic career

GP for business

- Employ those with academic / scientific understanding

4. INFLUENCING FACTORS > Country

Country	Collaboration in R&D	Mobility of academics	Mobility of students	Commercialisation of R&D Findings	Curriculum development and delivery	Lifelong learning	Entrepreneurship	Governance	Total UBC
Austria	6.7	3.8	5.1	5.5	5.0	5.4	4.5	4.4	**5.0**
Belgium	6.3	4.5	5.9	5.6	5.5	5.4	5.6	4.5	**5.4**
Bulgaria	5.4	5.4	6.0	4.8	5.7	6.4	5.6	5.5	**5.8**
Czech Republic	6.1	5.0	5.8	5.0	6.3	6.3	4.0	3.9	**5.3**
Denmark	6.3	4.8	6.7	5.4	5.8	6.3	6.0	4.7	**5.8**
Estonia	5.1	4.1	5.2	4.7	6.9	6.4	4.9	4.0	**5.1**
Finland	7.4	5.3	7.0	5.4	5.9	6.6	6.0	5.0	**6.2**
France	6.8	4.0	6.8	5.2	6.3	6.2	6.0	5.9	**5.9**
Germany	7.2	4.6	6.7	5.9	4.9	5.3	5.6	4.7	**5.6**
Hungary	6.4	4.6	5.4	4.7	6.1	6.2	4.8	5.1	**5.6**
Ireland	7.9	5.1	7.2	7.7	7.3	7.1	7.6	6.8	**6.9**
Italy	5.8	4.8	6.0	5.0	5.9	5.5			
Latvia	6.4	5.9	7.2	4.4	6.7	6.8			
Lithuania	4.9	5.9	7.2	4.4	6.7	6.8			
Netherlands	6.4	4.6	6.1	5.4	5.2	5.4			
Norway	6.5	4.0	5.3	4.7	4.5	4.7			
Poland	4.9	4.4	5.5	4.0	5.1	5.2			
Portugal	6.0	4.8	6.8	4.8	6.0	6.4			
Romania	6.8	6.3	7.2	5.5	6.9	7.0			
Slovakia	5.1	4.8	5.4	4.4	4.9	5.5			
Spain	6.9	4.9	6.6	6.1	5.7	6.4			
Sweden	7.0	4.4	5.4	6.2	5.5	5.8			
Turkey	5.6	5.0	5.4	4.5					
United Kingdom	7.6	5.4	6.5	7.4					
AVERAGE	**6.3**	**4.9**	**6.2**	**5.3**					

Scale: 1 = No UBC, >1 - 4 = low ; >4 - 7 = medium ; >7 - 10 = high

HEIs

GERMANY

Above average in

1. Collaboration in R&D
2. Commercialisation of R&D

Below average in

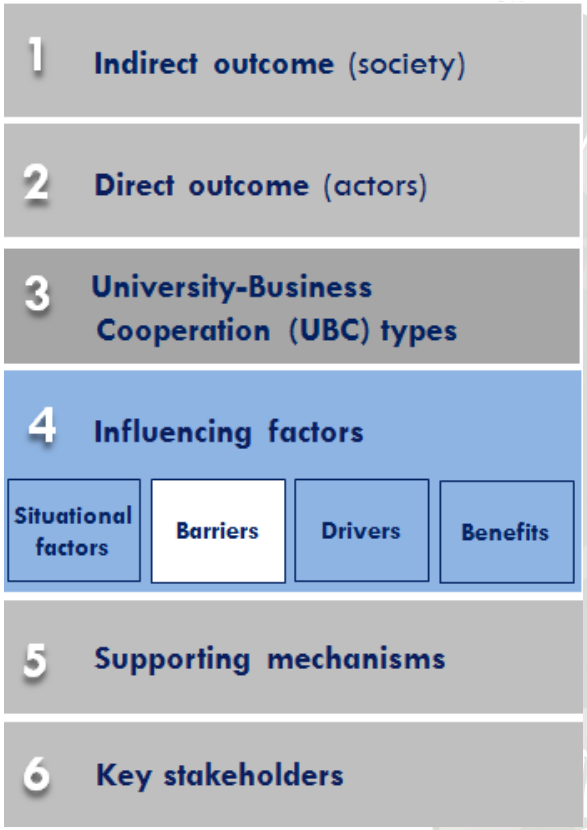
1. Curriculum development & Delivery
2. Lifelong learning
3. Governance

Barriers are those obstacles that restrict or inhibit the ability of the academic or HEI to engage in UBC.

Three groups of UBC barriers

Resulting from an analysis of the results, barriers can be categorised in the following groups:

I. usability of results,
II. funding barriers and
III. relationship barriers.



Barriers to UBC measured included:

'Lack of external funding for University-Business cooperation', 'Lack of financial resources of the business', 'Business lack awareness of university research activities / offerings', 'The current financial crises', 'Lack of university funding for University-Business cooperation', 'Differing time horizons between university and business', 'The limited absorption capacity of SMEs to take on internships or projects', 'The need for business to have confidentiality of research results', 'Bureaucracy within or external to the university', 'Differing motivation / values between university and business', 'The focus on producing practical results by business', 'Universities lack awareness of opportunities arising from University-Business cooperation', 'Business fear that their knowledge will be disclosed', 'Limited ability of business to absorb research findings', 'Differing mode of communication and language between university and business', 'Difficulty in finding the appropriate collaboration partner', 'A lack of contact people with scientific knowledge within business', and 'No appropriate initial contact person within either the university or business'.

Lack of funding and excess of bureaucracy are the highest barriers to UBC

Most important barriers for **academics**

1. Bureaucracy within or external to the HEI (7.3)
2. Lack of HEI funding for UBC (6.9)
3. Lack of external funding for UBC (6.9)

Scale: 1 = No importance, - 10 = high importance

Most important barriers for **HEIs**

1. Lack of external funding for UBC (7.0)
2. Lack of financial resources of the business (6.9)
3. Business lack awareness of HEI activities (6.9)

Finding: All European academics and HEI representatives see the same barriers to UBC no matter their extent of cooperation

GP for government and HEIs:

- Reduce (ideally remove) the main barriers related to funding (HEI) and bureaucracy (ACAD)
- TTOs to support academics with bureaucracy

GP for business

- Don't expect something for nothing > expect to pay
- Support the university to reduce bureaucracy

… but removal of barriers does not necessarily create UBC!

4. INFLUENCING FACTORS > Drivers of UBC

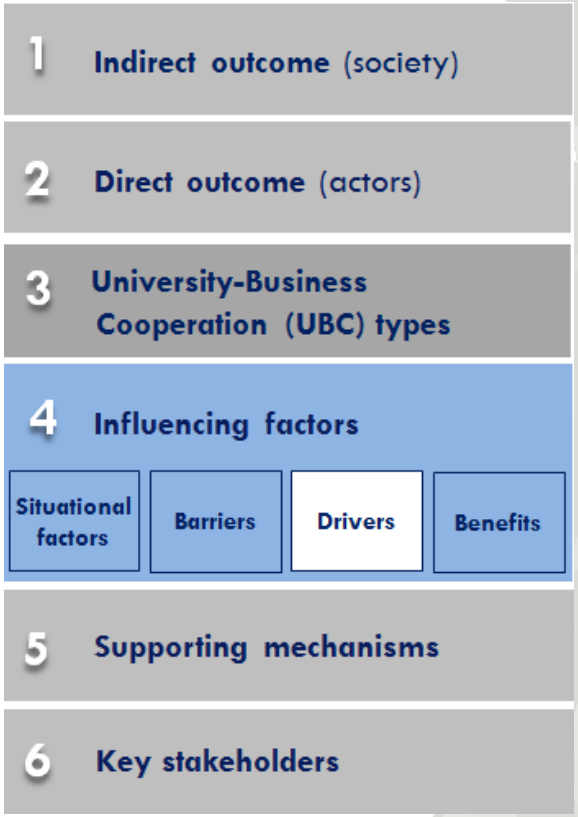
Drivers are those factors that facilitate the academic or the HEI to engage in UBC.

Two groups of UBC drivers

Resulting from an analysis of the results, drivers can be categorised in the following groups:

I. Relationship drivers and

II. Outcome drivers



Drivers of UBC measured included:

'Commercial orientation of the university', 'Possibility to access funding /financial resources for working with business7', 'Flexibility of business partners', 'Interest of business in accessing scientific knowledge', 'Access to business-sector research and development facilities', 'Employment by business of university staff and students', 'Short geographical distance of the university from the business partner', 'Existence of mutual trust', 'Existence of mutual commitment', 'Having a shared goal', 'Understanding common interest by different stakeholders (e.g. universities, business, individuals, students)', 'Prior relation with the business partner', and 'Cooperation as effective means to address societal challenges and issues'.

Personal relationships drive UBC. It's a people game!

Most important drivers for **academics**

1. Existence of mutual trust (7.4)
2. Existence of mutual commitment (7.0)
3. Having a shared goal (7.0)

Scale: 1 = No importance, - 10 = high importance

Most important drivers for **HEIs**

1. Existence of mutual trust (7.5)
2. Existence of mutual commitment (7.1)
3. Having a shared goal (7.1)

GP for governments

- Funding opportunities aimed at encouraging and supporting the commencement of relationships
- Legal changes to allow freer mobility between government and business

GP for HEIs / TTOs / business

- Support the creation and development of long-term personal relationship (partnerships)

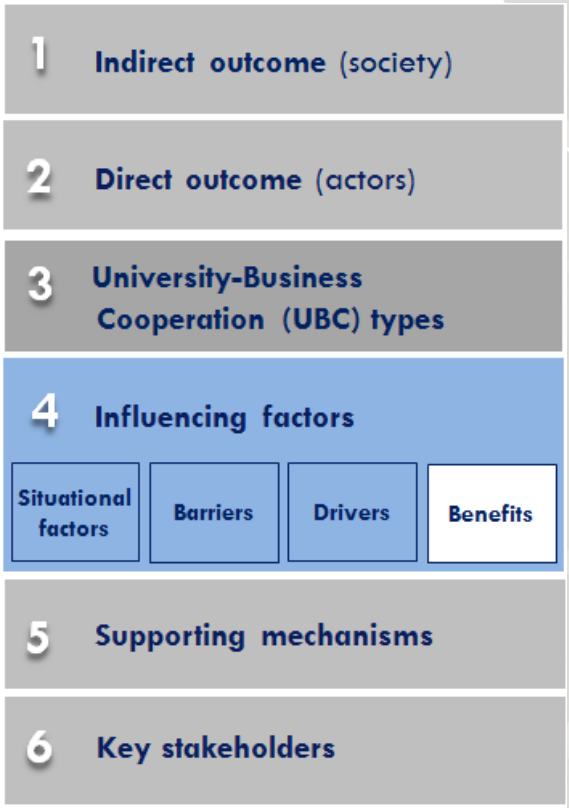
Finding: Those academics or HEIs perceiving higher drivers for UBC are more engaged in UBC than those perceiving low drivers for UBC

Benefits are the advantages that are received by the stakeholders from undertaking UBC.

Four groups of UBC benefits for academics

Resulting from an analysis of the results, benefits for academics can be categorised in the following groups:

(I) benefits for students,
(II) benefits for business,
(III) benefits for HEIs and
(IV) personal benefits for academics.

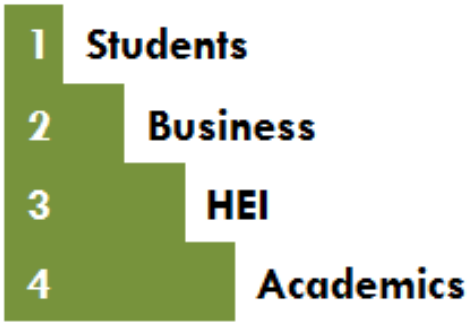


Benefits from UBC measured included:

Benefits for students (improving the learning experience of students, increasing skills and graduate development, improving the employability of future graduates), benefits for business (improves the performance of business), benefits for society (increasing local employment, benefitting the local industry, increasing local GDP and disposable income, creating a variety of range of social and recreational benefits, and improving regional productivity), benefits for HEIs (achieving the mission of the HEI), and personal benefits for academics (increasing the academics reputation in the field, being vital for personal research, increasing chances of promotion and employability, and improving the standing within the HEI).

Perceptions of high benefits & incentives drive UBC.

ACAD



GP for HEIs

- In order to encourage UBC, the right incentives for academics need to be in place
- The incentives need to be recognised by the academics

HEI

GP for business

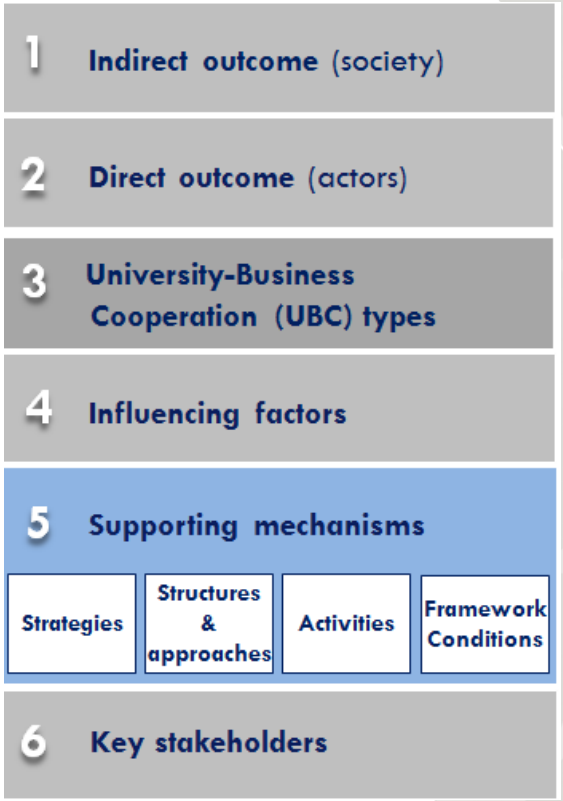
- Create the right incentives for academics
- Also your own employees need benefits

Finding: The higher the perceived personal benefits of UBC, the higher the extent of UBC carried out

5. SUPPORTING MECHANISMS

The creation and development of supporting mechanisms are critical for UBC. These include:

1. Strategic instruments
   a. Documented e.g. vision / mission,
   b. Implementation e.g. incentives
2. Structural instruments or approaches
   a. Positions i.e. personnel
   b. Agencies i.e. units of focus
3. Operational activities
   a. Academic focussed
   b. Student focussed
4. Framework conditions



Finding: It was found that having a dedicated:

1. strategy,
2. program,
3. agency, and/or
4. responsible person

has a substantial effect on stimulating European UBC.

Finding: The UBC supporting mechanisms that are easier to implement (e.g. activities) are more developed than those (e.g structures) that are more difficult (costly, time-consuming) to implement

5. SUPPORTING MECHANISMS

The creation and development of supporting mechanisms are critical for UBC

DEVELOPMENT

The development of the mechanisms supporting UBC in Europe from the most developed to least are:

1. *Operational activities* (5.4),
2. *Structures and approaches* (5.1),
3. *Strategies* (4.9), and
4. *Framework conditions* (4.5).

Scale: 1 - 4 = low ; >4 - 7 = medium ; >7 - 10 = high

IMPACT

It was found that the impact of the *Supporting Mechanisms* on European UBC is (from the highest to lowest):

1. *Strategies (58%)*
   (especially implementation strategies)
2. *Operational activities* (53%),
3. *Structures and approaches* (52%), and
4. *Framework conditions* (40%).

GP for government

- Support the creation of high impact supporting mechanisms to support UBC

GP for HEIs

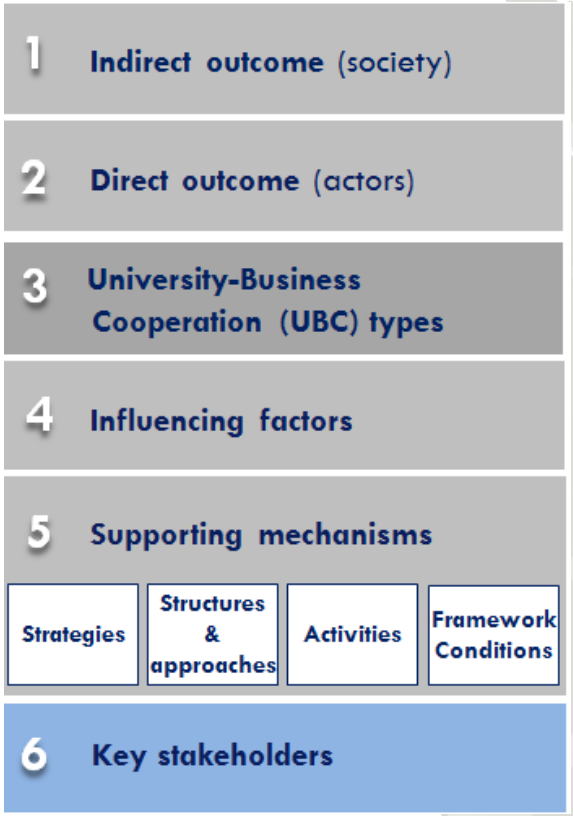
- A greater focus on implementation strategies is required

GP for business

- Support the creation of high impact supporting mechanisms to support UBC

6. STAKEHOLDERS

Stakeholder	Explanation
Governments	Includes all levels of governments ranging from regional or national to international involved in supporting and developing UBC
HEIs	HEI representatives include: 1. University management 2. University professional working with business 3. Academics (incl. professors, researchers and lecturers)
Business	Business is considered in a broad sense in the study to include: 1. Privately and publicly owned organisations, 2. Non-government organisations, 3. Not-for-profit organisations
Intermediaries	Intermediaries in UBC can be understood as those organisations not necessarily owned or managed by either the Government or HEI that facilitate UBC. These include: chambers of commerce, business associations, investor groups and regional development agencies.



ACTION The development of a well-connected, proactive and supporting UBC stakeholder community is crucial for developing UBC

SUMMARY OF ECOSYSTEM ELEMENTS

6 Ecosystem Elements (and their key findings)

1. UBC is vital in creating a knowledge society
2. UBC provides direct outcomes for students, HEIs, academics and businesses
3. Those UBC types with more direct, measurable, and promotable benefits are the most developed (e.g. collaboration in R&D, mobility of students)

4a. Situational factors (e.g. age, faculty) help to explain UBC but there is little that can be implemented from these results

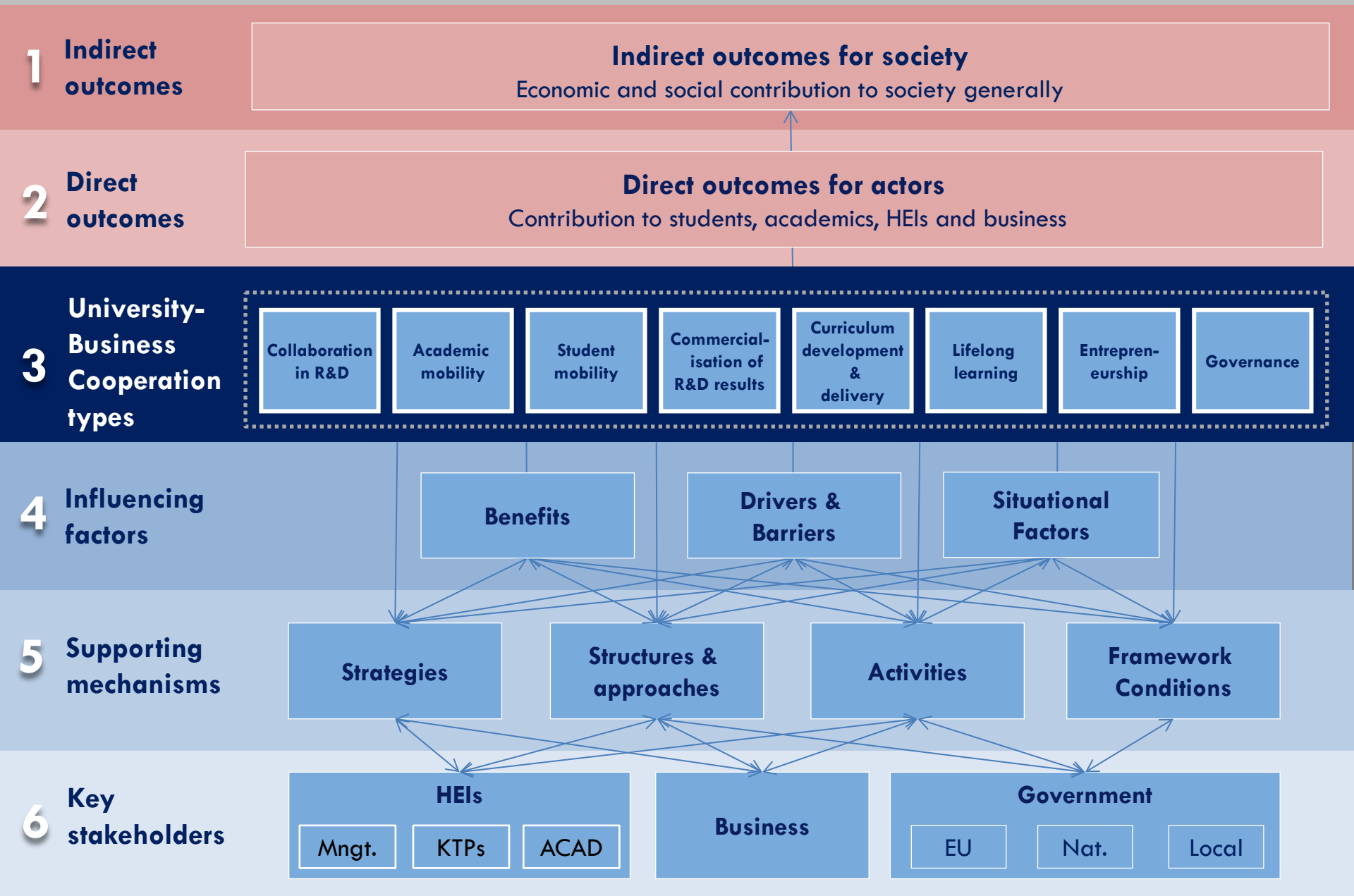
4b. Lack of funding and excess of bureaucracy at all levels (HEI, national, European) are the highest barriers to UBC

4c. Personal relationships drive UBC. It's a people game!

4d. Perceptions of high personal benefits & incentives are motivators of UBC

5. The creation and development of supporting mechanisms (especially those with the highest impact) are critical for UBC
6. In the UBC ecosystem, the multiple actors need to work cooperatively and in a coordinated manner

UBC ECOSYSTEM MODEL > Detailed

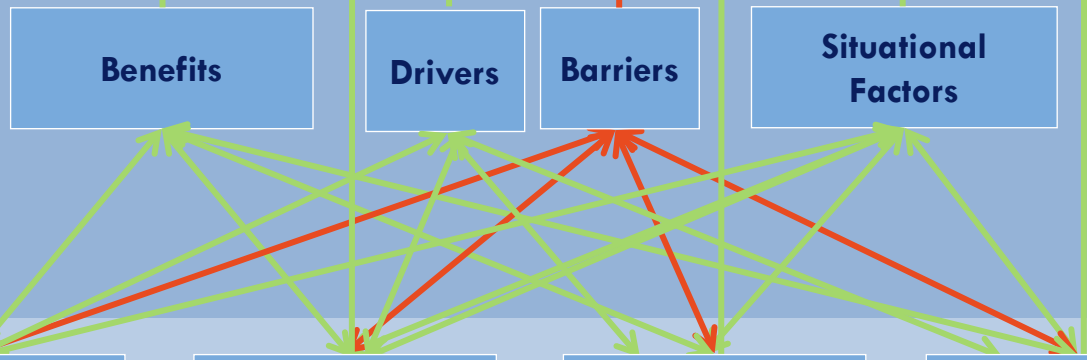


UBC ECOSYSTEM > Relationships explained

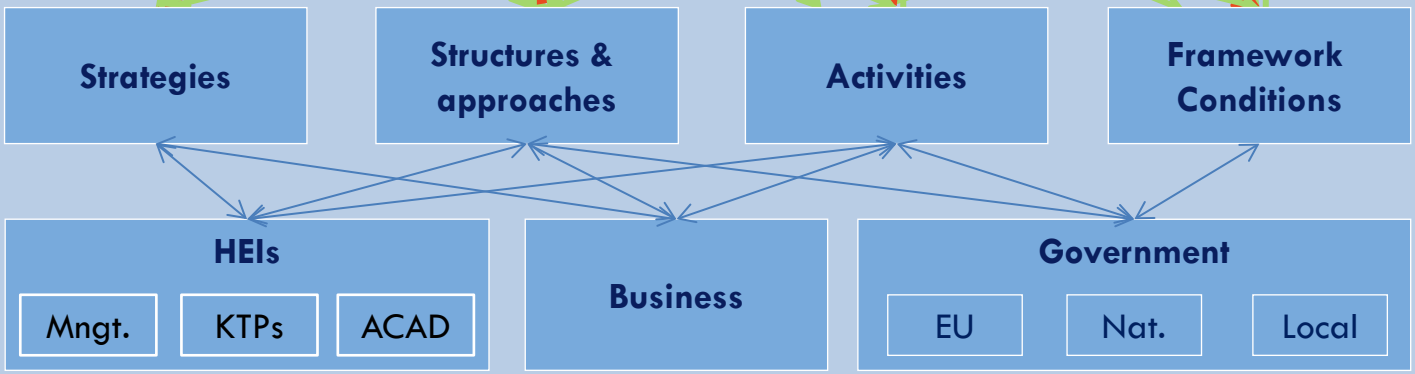
3 University-Business Cooperation types

4 Influencing factors

NB. Relationships scientifically tested using the hippo data are marked in green (a factors relationship with the extent of UBC is proven) and red (a factor relationship on the extent of UBC is not proven)



5 Supporting mechanisms



UBC ECOSYSTEM > Benchmarking

Benchmarking questions to allow benchmarking versus country ave. (hippo results)

Total U-B Cooperation

A. What is the extend of Total U-B cooperation including the 8 types of cooperation?

B. What is the nature of EU U-B cooperation?

A B

Total University-Business Cooperation

- Collaboration in R&D
- Academic mobility
- Student mobility
- Commercial-isation of R&D results
- Curriculum development & delivery
- Lifelong learning
- Entrepren-eurship
- Governance

Influencing factors

C. Which benefits, drivers, barriers and situational factors exist and how relevant are they?

D. What sort of influence do benefits, drivers, barriers and situational factors have on the extent of UBC (8 Types of UBC)?

E. What sort of influence do benefits, drivers, barriers and situational factors have on the mechanisms that support UBC (supporting mechanisms)?

D D D

Benefits C

Drivers & Barriers C

Situational Factors C

G E E E E E E G

Analysis takes place in this direction

Supporting mechanisms

F. What is the extent of development of the mechanisms that support UBC (supporting mechanisms) ?

G What sort of influence do the UBC supporting mechanisms have on the extent of UBC?

F

Supporting mechanisms

Strategies, Structures & Approaches, Activities and Framework Conditions

Key Stakeholders

UBC ECOSYSTEM > "Heat Map"

Print and analyse your UBC ecosystem

Outcomes and impacts

A. How aware are key regional, business and HEI stakeholders of the potential outcomes and impacts of UBC?

Extent of UBC

B. How developed are the 8 types within your HEI & where can more focus be given? Nominate strengths and weaknesses.

Benefits, drivers, barriers & situational factors

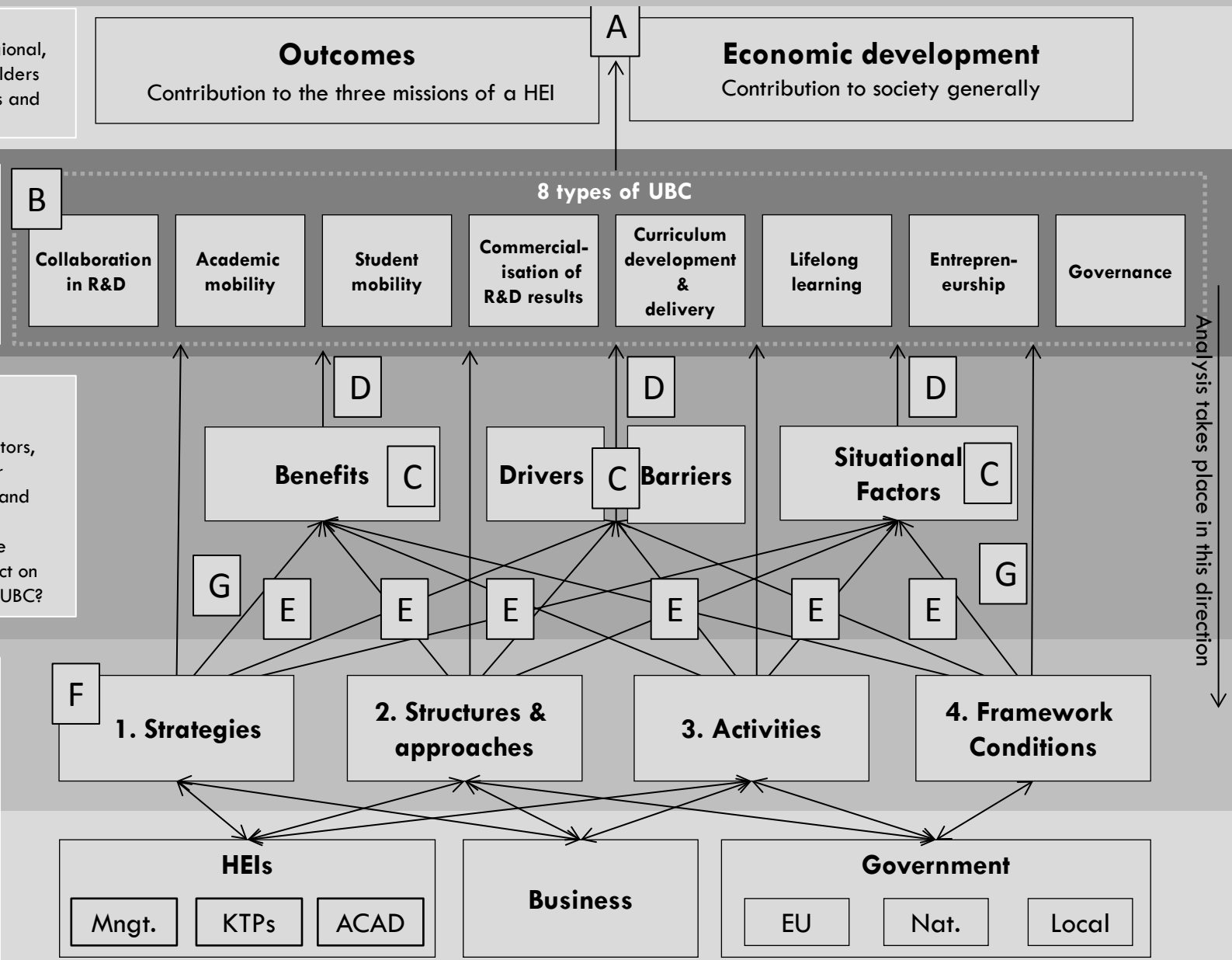
C. Of these influencing factors, where do you think your university has strengths and weaknesses?

D. Which of the factors are having the biggest affect on your efforts in increase UBC?

Supporting mechanisms

E. Are there particular types of supporting mechanisms that are more developed than others?

G In terms of your UBC efforts, are there particular strengths or weaknesses of stakeholders that need consideration?



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REVIEW OF GOOD PRACTICE

30 good practice case studies – 6 key insights

1. The type and method of cooperation needs to fit to regional characteristics to maximise its success:
   - Fitting to the region's strengths
   - Fitting to the region's environmental framework and regional limitations
2. Multiple UBC actors need to come together in order to truly deliver new and sustainable value to a region
3. The extent of UBC development differs among the different regions in Europe, between HEI types and HEI sizes
4. Good practice can be transferred
5. A longer-term commitment to UBC is required
6. There is a movement to longer-term, sustainable funding models

http://www.ub-cooperation.eu/index/casestudy

BENCHMARK

…universities in your region
…your university!

Using the State of European University-Business Cooperation (HIPPO) study results, decision makers, managers and practitioners involved in UBC can benefit from receiving:

1. a benchmark in terms of UBC of your organisation, institution, sector, region or country against others.
2. a clear picture of progress in efforts to increase UBC,
3. proactive areas of focus for increasing UBC,
4. the required information to advance UBC within their region or institution

Provided to your organisation in the form of a report and/or presentation.

A state of the UBC report dedicated to your organisation can assist with developing greater financial and non financial benefits from UBC.

Please contact davey@apprimo.com for more information.